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EDUCATION for VICTORY

OFFICIAL BIWEEKLY OF THE UNITED STATES OFFICE OF EDUCATION
EDERAL SECURITY AGENCY, Replacing SCHOOL LIFE for the Duration of the War

OL. 1, NO. 27 | WASHINGTON, D. C. | APRIL 1, 1943

ROUTE TO:

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The above blank may be helpful in ting this copy of EDUCATION FOR VIC- RY to various staff members and per- s finally to the library.

Keep a file of the issues of EDUCATION VICTORY for future reference.

In this issue—

	Page
OINT RATIONING	1
EW INTER-AMERICAN PACKETS	4
EMWT QUALIFYING COURSE IN MATHEMATICS	4
IGH-SCHOOL VICTORY CORPS	5
RE-INDUCTION COURSES IN MATHEMATICS	12
CHOOL AND RED CROSS COOPERATE ON LUNCH PROGRAM	17
ALARIA CONTROL	18
IGHER EDUCATIONAL INSTITUTIONS	19
IBRARIES AND THE WAR	24
CONSUMER EMPHASES IN EDUCATIONAL PROGRAMS	25
UIDANCE REPORTS	27
OWARD SOLVING THE NURSING PROBLEM	28
DUCATIONAL LEGISLATION MEASURES	28
OCATIONAL SCHOOLS HELP RECRUIT	29
UGGESTIONS FOR ADVISERS OF VFV	31
. S. GOVERNMENT ANNOUNCES	32

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POINT RATIONING
WHAT THE SCHOOLS CAN DO

Rationing Meat, Cheese, Fats, Oils

Food is an important weapon of war. Our armed forces, our Allies, those in the countries on whose territory the war must be fought, all need food as well as arms, planes, ships, and men to help make victory possible. Every available resource must be used to aid in the prosecution of the war. To the degree to which we allow ourselves to enjoy supplies without restriction, to that extent we are not sharing in the war to the utmost, when all possible manpower, materials, and equipment are so desperately needed to fight this global war.

Wartime rationing opportunities for the schools include the development of understanding of the values of rationing and of the need for rationing certain products, as well as the ability to maintain a healthful standard of living under rationing. Opportunity is offered for the development of satisfactions in sharing fully in wartime scarcities and restrictions and of disapproval of hoarding, of buying on markets which are not cooperating in Government regulations, or trying to get more than a fair share of rationed products.

Rationing Foods in Groups

Rationing meat, cheese, fats, and oils in one group is less difficult to administer than if each of these were assigned separate points.

From the consumer's point of view, also, grouping these products provides for greater flexibility in choice of foods. Adjustments can be made to family differences in consumption habits. For example, people who use a large amount of vegetable fats and cheese and little or no meat and animal fats in their diet, can have points available for a greater amount of vegetable fats and cheese. Combining these products gives an incentive to the housewife to save and use edible cooking fats from meats. Insofar as she does this she has more points to spend for meat because she needs to buy less other fats and oils.

Different Kinds Included

Rationed meats include all edible parts of beef, veal, lamb, mutton, pork, variety meats, canned meat and fish sausage and manufactured products which contain 20 percent or more of rationed meats. Poultry and fresh fish are not included.

The cheeses that make up the greatest proportion of our cheese consumption are on the rationed list. Some highly perishable and some less frequently used varieties are not included because of the administrative problems entailed.

The fats and oils rationed include butter, margarine, lard and shortening (standard and hydrogenated), and those salad and cooking oils which constitute almost all of our total consumption.

In determining point values given to different products, it must be kept in mind that there are many factors to be considered, among them supply of the product, possible substitutes available, perishability, and edible portion. The limited experience in rationing in this country makes it difficult to be sure how the points decided upon will actually work out. The administrative machinery has been set up so that point values can be adjusted as needed. It is hoped that it will not be necessary to adjust them more than once a month.

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ATTENTION SUBSCRIBERS

EDUCATION FOR VICTORY replaced *School Life*, which with the February 1942 issue was temporarily discontinued for the duration of the war. EDUCATION FOR VICTORY started March 3, 1942, with Volume I, No. 1.

Frequent requests are received by the U. S. Office of Education for permission to reprint material from EDUCATION FOR VICTORY. Such material may be reprinted without special permission. When excerpts are reprinted it is requested that they be used so that their original meaning is clear.

The periodical is issued to enable the U. S. Office of Education to serve all educational fields as widely as possible during these wartimes. It brings to educational leaders important official announcements; current reports on emergency programs; statements and plans of various Federal Government agencies vital to education and other material.

Problems Facing Consumers

Some of the problems facing consumers with the rationing of meat, cheese, and fats are: (1) What are the contributions of meat, cheese, and fats to the daily diet? (2) How can meals be prepared to conserve food values and to make them attractive and tasty? (3) How can foods be purchased to meet the needs of good nutrition with the points allotted and money available? (4) What are ways to avoid any food waste?

Each consumer should recognize that meat, cheese, and fats and oils are not interchangeable in food value, quality, and price, and that individual responsibility must be assumed for apportioning ration points allowed for these foods in such a way as to assure adequate nutrition.

Knowing the nutritive values of foods in order to plan and select an adequate diet.—Consumers should consider meat, cheese, fats, and oils in relation to their contribution to the total diet. They need to study the nutritive values of different foods in order to select and plan well balanced meals and to learn the food alternates that may be used in place of meat, cheese, and fats. A guide to adequate nutrition is to eat some foods from each of the following groups everyday:

1. Green and yellow vegetables; some raw, some cooked or canned.
2. Oranges, tomatoes, grapefruit; or raw cabbage or salad groups.
3. Potatoes and other vegetables and fruits; raw, dried, cooked or canned.
4. Milk and milk products; fluid, evaporated, dried milk or cheese.
5. Meat, poultry, fish, or eggs; or dried beans, peas, nuts, or peanut butter.
6. Bread, flour and cereals; natural whole-grain or enriched or restored.
7. Butter and fortified margarine (vitamin A added).

From the above grouping of foods it will be seen that meat, cheese, and fats and oils are each found in a separate food group. This means that to secure adequate nutrition most people will find it advisable to apportion some red stamps to each of the rationed foods—meat, cheese, fats and oils—unless some of these are produced at home.

If less meat, cheese, and butter are used, other protective foods should be more carefully selected in order to supplement the nutrients usually supplied by these foods. These protective foods include whole grain, enriched and restored products, green and yellow vegetables, potatoes, fruits, the legumes, including mature peas, beans, lentils, peanuts and soybeans, and dairy products, eggs, fish, and poultry.

Preparing meals to conserve food values and make them attractive and tasty.—Many people especially like the flavor of meat and cheese. Since these foods are rationed, every effort should be made to prepare them so that they will go as far as possible. When choices in food are limited it is necessary to make added effort to prepare the same foods in many ways in order to get variety and interest in meals.

Meat and its flavor may be extended by using it in stews, soups, gravies, and loaves. Extend the flavor of cheese by using it in souffles, scalloped, and creamed dishes. Meat or cheese may be combined with such unrationed foods as oatmeal, rice, macaroni, spaghetti, noodles, and enriched or whole wheat bread. Soy-bean products when available make a good extender for meats.

The way food is cooked has much to do with the conservation of quality and food value. No matter what method of meat cookery is used or what cut, meat should always be cooked at a low temperature. This conserves the greatest amount of meat juices and causes less shrinkage of meat. Cheese dishes, like egg, meat, dried beans and all other protein foods, need to be cooked at a low temperature. When cooked at too high a temperature cheese becomes stringy and tough. Butter or fortified margarines cooked at a high temperature as in baking rich cakes or cookies results in some loss of vitamin A.

Spending money and ration points for good nutrition.—In order to buy rationed foods wisely it is desirable to apportion points on a weekly basis and plan menus within the limits allowed. All ration books for a family should be pooled and the apportionment of points made on the total points available rather than for each individual book.

Point values will need to be studied in order to get the most for the number of points spent. Foods with low-point value may be as high or higher in nutritive value as foods with higher point value. In using ration stamps it is advisable to use the stamps with high point value early in the ration period in order to have leeway in buying foods of varying point values toward the end of the period.

Avoiding food waste.—Food should always be properly stored to preserve quantity and quality. Meat and poultry should be kept in the coldest storage place—45° F., or lower is best. Fish and all sea foods spoil in a few hours at ordinary room temperature, and for this

reason they should be cooked at once. When this is not possible, wrap in wax paper to keep odor from other food, and freeze or store very cold. Cheese should be kept cold and well covered.

Fats deteriorate at high temperature. Store butter and other table fats in tightly covered dishes in a cold, dark place away from strong odors. To keep fats that have been used in cooking, strain to remove food particles and store in clean covered jars in a cool, dark, dry place.

How the Schools Can Help

Schools can help in the successful rationing of meat, cheese, fats, and oils by including in the total school program appropriate learning experiences for each pupil. This program should bring into effective use the entire personnel and facilities of the school system. Elementary and secondary school pupils, through many kinds of school experiences, and adults, through various school contacts, should be given opportunities to acquire understandings and attitudes essential to intelligent and willing cooperation in the rationing program.

Understandings and attitudes.—Of the many types of understandings which the schools may well be concerned to develop, four are suggested below:

This Nation is built on a belief in democracy. Sharing essential foods equitably is an immediately practical way for every citizen to demonstrate his belief in democracy.

When some rationed foods are not readily available, a knowledge of nutritive values, of point values, and of prices is needed to make wise adjustments in plans for purchases.

Waste of food by any individual may deprive others of essential food.

Spending rationing points for food and then destroying food values, through improper cooking, or other poor food preparation practices, bring unpatriotic results.

Among the attitudes which should be expected of all citizens in relation to rationing would be:

As much concern with the welfare of others as with our own. Hoarders are selfish. Patriots cooperate.

Loyal support of the fundamental idea of sharing through rationing rather than quibbling about some flaws in the program.

Willingness to adjust to changed conditions and use of substitutes on short notice.

Pride in saving every bit of edible food.

School activities.—There are many avenues through which school pupils may become informed with regard to rationing of meat, cheese, fats, and oils. Schools also may help to inform the general public.

Audiences of pupils and of adult groups can be reached through such activities as the following: Radio broadcasts, prepared and carried out by school groups and individuals; showing of film strips, slides, or motion pictures such as "Partners in Crime"; use of school newspapers and space in local city papers; organization of speakers' bureaus, forums for discussion, and dramatic presentations.

The program of the modern school merges all learning activities of pupils toward the accomplishment of well-defined objectives. Thus understandings and attitudes on rationing of meat, cheese, fats, and oils can be acquired by pupils and teachers working together in many different situations. Both school and community groups may be reached in a wide variety of ways which represent outgrowths of classroom study and discussion. Pupils may prepare, collect, and distribute recipes and menus which are practical for the use of rationed foods indicating point values required. Directions may be included for cooking protein foods at low heat, and for getting the best results with different cuts of meat. Recipes for meat extender dishes and for the use of substitutes with equivalent food values could be tested and distributed. The food demonstration is an excellent means of bringing such recipes and menus to the attention of parent groups and adult citizens of the community and pupils. Elementary school children may illustrate books of recipes and menus which they take home to their parents.

Exhibits are an excellent means of making facts realistic and challenging. Pupils may plan, set up, and explain exhibits which show, for example, the relative amounts of calcium, iron, niacin, riboflavin, thiamine, and protein in various meats, cheese, and in alternate foods, or the amounts of vitamins present in the same amounts of butter, oils, or margarine, together with the costs for these three items.

Similarly, students may make, for display purposes, posters, charts, graphs, maps, cartoons, and movies, presenting such information as cuts of meat, U. S. standards for meat, sources of foods in the United States, or lists of commodities that have "gone to war." A number of these devices can be used on the bulletin board which in organized form presents developments from week to week.

Except in the highly congested centers of the country, school groups may assist in stimulating home and community production and preservation of meats, butter, and cheese.

These activities have many possibilities for modifications and adaptations to meet the needs of various levels of school instruction in different sections of the country.

References

Bulletins, Folders, and Leaflets

Food Values of Portions Commonly Used. Bowes and Church. 1942. Philadelphia Child Health Society, Room 609, 311 S. Juniper Street, Philadelphia, Pa. $1. 35 p.

Handbook for Food Demonstrations in Wartime. Nutrition Division, Office of Defense Health and Welfare Services, Federal Security Agency, Washington, D. C. 1943. 33 p. (Available from chairman, State Nutrition Committee.)

Wartime Fish Cookery. Conservation Bul. No. 27. U. S. Department of the Interior, Washington, D. C. 1943. 24 p. (Available from Superintendent of Documents.)

U. S. Graded and Stamped Meat. Leaflet No. 122. U. S. Department of Agriculture, Washington, D. C. Revised 1941.

(The following material is available from the Bureau of Home Economics, U. S. Department of Agriculture, Washington, D. C.)

Meat for Thrifty Meals. FB–1908. 1942. 46 p.

Poultry Cooking. FB–1888. 1941. 30 p.

Vitamin Values of Foods in Terms of Common Measures. M.P. 505. 1942. 28 p.

Dried Beans and Peas in Low-Cost Meals. 1942. *Egg Dishes at Low-Cost.* 1941. *Nuts and Ways to Use Them.* 1938. *Soy Beans for the Table.* 1938. *Cheese in Your Meals.* 1943. *Fats and Oils for Cooking and Table Use.* 1940.

Food for Freedom Series: *Fight Food Waste in the Home.* 1942. *Vitamins From Farm to You.* 1942. *When You Eat Out.* 1942. *Food for Growth.* 1942.

99 Ways to Share the Meat. 1942. (May be obtained from State and local offices of Civilian Defense.)

Visual Aids

Fight Food Waste in the Home charts. Superintendent of Documents, Washington, D. C. Series of 10 charts size 14" x 20". 25 cents per set. 1942.

Get the Good from Your Food charts. Superintendent of Documents, Washington, D. C. Series of 10 charts, size 14" x 20". 25 cents per set. 1942.

Food Value Charts. Set of 12 charts. Philadelphia Child Health Society. Room 609, 311 S. Juniper Street, Philadelphia, Pa. 1942. 50 cents per set.

Partners in Crime film. British Information Services. 30 Rockefeller Plaza. New York. 50 cents rental, plus transportation charges. This film deals with the black market problem.

New Inter-American Packets Announced

The Information Exchange is announcing a new series of 14 loan packets under the general heading of *Inter-American Friendship and Understanding*, prepared by the Division of Inter-American Educational Relations of the U. S. Office of Education. Titles of packets now available are:

Instructional Materials for Use in the Development of Units and Courses of Study	IX–ES–1
Instructional Materials for Use in the Development of Units and Courses of Study	IX–ES–2
Reading Materials Suitable for Classroom Use	IX–ES–3
Reading Materials Suitable for Classroom Use	IX–ES–4
The Study of Spanish: Beginning Classes	IX–G–1
The Study of Spanish: Intermediate Classes	IX–G–2
Plays, Pageants, and Programs	IX–G–3
Music of the Other Americas	IX–G–4
Art of the Other Americas	IX–G–5
Art and Sculpture of the Western Hemisphere	IX–G–6
The Development of Pan Americanism	IX–G–7
The Americas and the War	IX–G–8
Current Problems	IX–H–1
Current Problems	IX–H–2

The letters "ES" in the order number indicate suitability for elementary and secondary levels and "H" for higher education; "G" indicates general matter adaptable to different levels of instruction.

The collection represents careful selection of the best materials available for teachers and study groups—pamphlets, bibliographies, units of study, conference reports, magazines, pictures, maps, stories, plays, song books, and other teaching aids. Content materials on the various grade levels predominate except in the two packets entitled *Instructional Materials, IX–ES–1 and IX–ES–2.*

Last year many borrowers were disappointed because the heavy demand for Latin-American packets made a long waiting list necessary. This year, however, 150 packets have been assembled on each of the subjects in these two lists, and it should be possible to fill requests more promptly. Not more than two packets may be ordered at a time and franked labels will be supplied for their return without payment of postage, if wrapped in packages weighing less than 4 pounds.

To obtain packets for a 2-week loan, write to the Information Exchange, U. S. Office of Education, Federal Security Agency, Washington, D. C. A catalog listing titles of approximately 65 other packets on a wide range of subjects will be sent upon request.

Effects of the War on School Enrollments

Tabulations of returns from a request by the U. S. Office of Education for data for 1941–42 and 1942–43 on the effects of the war on schools in cities of 10,000 population or more show that enrollments in certain subjects have increased, even with a decreasing total high-school enrollment; others have decreased either more or less rapidly than the total enrollment.

Total high-school enrollments decreased about 5.5 percent, from 1941–42 to 1942–43, but the enrollments in preflight aeronautics in the larger cities increased from 1,686 students to 16,098, or 854.8 percent. Students in physics increased by 3.1 percent.

Decrease at a slower rate than total enrollment took place in mathematics, 0.6 percent; typewriting, 3.5 percent; trades and industry courses, 1.9 percent; and physical education, 2.3 percent. Decreases took place at a greater rate than total enrollments in chemistry, 7.7 percent; industrial arts, 6.6 percent; and home economics, 7.5 percent.

Data will be available later for these same subjects for cities of under 10,000 population, county school systems, and independent rural school districts.

ESMWT Establishes Qualifying Course in Mathematics for Women and Older Men

The supply of persons who have had two or more years of training in mathematics is diminishing at a rapid rate. Because such training is an indispensable prerequisite to college-level work in engineering, ESMWT has found it necessary to establish a qualifying course in mathematics. The course is intended to meet deficiencies in high-school training of women and older men who might otherwise succeed in engineering courses.

It is believed, that the course will serve an additional purpose of helping to select those applicants for ESMWT engineering courses who have reasonable aptitude for mathematics. It is not likely that those who are unable to make fair progress in this course would be useful in engineering jobs of even minor responsibility, although they may be trained successfully for jobs in other fields. Persons who progress satisfactorily in the qualifying course, on the other hand, may enroll in engineering drawing or other elementary engineering courses before they have completed the course, carrying the two simultaneously until the mathematics course is completed.

To Afford Manipulative Skill

The course is designed primarily to afford manipulative skill in algebra, leaving applications of algebraic techniques to be stressed in elementary engineering courses. Similarly, the course is to train in the fundamental facts of geometry, rather than formal proofs, and in trigonometry the instruction will be restricted to a working knowledge of trigonometric functions.

The minimum qualification for enrollment is high-school graduation with the inclusion of 1 year of study in mathematics. In some instances, such qualifying or aptitude tests as the mathematics department of the sponsoring institution deems advisable will be used to select trainees.

48 Hours of Instruction

The course, which may be conducted part-time after working hours or full-time during the day to meet local conditions will consist of approximately 48 hours of classroom instruction and 96 hours of outside preparation.

Roughly, 20 hours will be devoted to recitations in algebra, including fundamental algebraic operations and the solution of linear and quadratic equations. Some four hours will be devoted to geometry, including the study of angles, triangles, parallel lines, quadrilaterals, circles, and simple solid figures. Approximately 24 hours will be spent on the solution of right triangles, relations between trigonometric functions, logarithms, and solutions of oblique triangles.

Qualified women in any age group and men beyond the age liable for combat service may apply to the major colleges and universities in their States for full particulars concerning enrollment for this training. The Director of ESMWT, U. S. Office of Education, Washington, D. C., will forward, upon request, a list of institutions which are participating in ESMWT.

HIGH-SCHOOL VICTORY CORPS

GENERAL MEMBERSHIP

"We Are Working . . . We Are Growing"

"We may not be many as yet, but we're growing stronger all the time. Each of our 523 members has worked hard bringing in scrap, passing out blood bank circulars, acting as air raid wardens or messengers, and performing other useful activities in order to become one of the group. That doesn't mean that we have stopped working, now. On the contrary, we are doing everything we can to help Uncle Sam win an early victory. That's why we are so proud of our insignia. It's not that we are exclusive, for almost anyone can join us, but it takes a sincere desire to help and a willingness to work for victory. We have worked, we are working still, and we shall continue to do so, proud of our part in the war.

"We are members of the Victory Corps."

Thus, *The Arsenal Cannon*, weekly newspaper of Arsenal Technical High School in Indianapolis, Ind., expresses the spirit of many Victory Corps reports which have recently come to the U. S. Office of Education.

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Eight hundred students of Central High School (St. Joseph, Mo.) are general members of the Victory Corps and 205 more wear the insignia of the Special Service divisions.

"Our curriculum was brought into harmony with the plans of the Victory Corps. Every student in the school was enrolled in the physical fitness program. Physical examinations were given to each student under the supervision of physicians and nurses. The school counsellors assisted students to plan their programs to include printing, auto mechanics, woodworking, radio, electricity, refresher mathematics and similar courses recommended by the U. S. Office of Education," write Hester E. DeNeen and Don Buzard, faculty and student directors of the corps respectively, in a comprehensive report.

Air Service members are taking Aeronautic Aptitude Tests, and Production Service members are planning a Victory Garden. The whole corps is active in salvage operations and a Junior Red Cross clothing drive.

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With foundation courses in mathematics and sciences, preinduction courses in preflight aeronautics, fundamentals of electricity, and fundamentals of machines, and special courses made available in welding, sheet-metal working, and machine shop, the Victory Corps is off to a good start in Merrill High School (Merrill, Wis.). A physical education program, strengthened by excellent athletic facilities, enabled most of the juniors and seniors to become members of the specialized divisions.

These divisions adopted various group projects such as map reading, Victory gardens, publicity, sponsoring patriotic movies, Morse code, and model airplane making.

In addition to these the general divisions are participating in stamp sales, salvage collections, letters to service men, messenger service, Junior Red Cross, first aid, war discussion clubs, part-time jobs, and volunteer community service.

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Mark of accomplishment as well as symbol of interest is the Victory Corps insignia in the Cleveland Junior High School (Cleveland, O.). Students must earn 35 service points to receive the General V. At a ceremony held in February, 55 students received insignia on the basis of service accomplished during the fall term. Victory Corps members have a strong incentive to remedy any physical deficiencies they have.

Every member of the Baylor School (Chattanooga, Tenn.) Victory Corps spends more than one day a month working on the school farm. The boys are growing a Victory garden and raising feed for the chickens, cattle, pigs, sheep, horses and mules on the farm. In addition, courses in aviation, navigation, meteorology, radio, military science, and physical fitness enable students to qualify for the special service divisions.

• • •

Membership in the Thomas Jefferson High School (Los Angeles, Calif.) Girls Victory Corps is earned by service to one of 11 branches. Red Cross service, bond sale, and library, hospital, and cafeteria volunteer work are some of the ways that caps and insignia may be earned.

• • •

January 22 to February 22 was Victory month for the Maryland Park High School Victory Corps (Seat Pleasant, Md.). Admission to a Victory dance was gained by payment of 10 mashed tin cans, or purchase of war stamps. Home economics girls help care for young children in a day nursery sponsored by the school library.

• • •

"Arithmetic for Review," a mathematics refresher course used by each training squadron at Sheppard Field, Texas, has been sent to superintendents and high-school principals in New York State by the State Education Department for distribution to students soon to be enrolled in preinduction courses.

• • •

"How Can North Dakota High Schools Help Solve the Farm Labor Problem," is a report of a conference called jointly by the State Departments of Public Instruction and Agricultural Education. The report recommends adoption of the Victory Farm Volunteer plan for recruitment of student farm help. Schools are urged to adjust schedules to allow students to make a work contribution to the farm labor shortage.

• • •

Victory Corps on the Air

Radio is playing an important part in the development of the Victory Corps. Beginning with the Nation-wide broadcast which announced the formation of

the corps on September 25, 1942, the corps has been heard over the air many times.

West Coast Victory Corps members have their own program. The 11th Naval District Public Relations Office in San Diego, Calif., arranges and produces "Schools for Victory," heard on Thursdays at 3:30 p. m., PWT, over the Victory Network.

The Victory Corps Committee and the Board of Education of Philadelphia produce the "High-School Victory Corps Program" every week. It carries news and instructions from VC headquarters in Washington to students in all Philadelphia high schools.

Several schools have used radio programs as recruiting aids. Among these are Woodrow Wilson High School in Washington, D. C., and Nott Terrace High School in Schenectady, N. Y. The Office of Education will be glad to hear of any other Victory Corps radio programs undertaken by the schools.

VICTORY HOUR FOR THE VICTORY CORPS

The Victory Hour carries on every Tuesday at 2:30 p. m. EWT with fast-moving, stirring programs to tell students just how they can prepare themselves for war service.

Subjects for programs scheduled for April and early May are timely and important.

April 6, Army Day.

April 13, Jefferson Gave Us Our War Aims.

April 20, What Can a High-School Student Do This Summer?

April 27, Youth Under Fire—The story of young people who fight the Axis in other United Nations.

May 4, Precision Wins Wars—Mathematics and Science join the Armed Forces.

Each broadcast features:

1. News of what other high-school students are doing in the war effort.

2. On-the-job interviews with soldiers, sailors, and other war workers who tell what they are doing and explain what kind of training war jobs require.

3. Special messages to students by directors of National war agencies.

4. Pick-ups from England and other United Nations countries.

5. Review of the week's news by a leading commentator.

6. Music by the service bands.

The program is carried by over 100 stations on the Blue Network. Consult your local newspaper for time and station.

Out soon...

A new book on "Our Armed Forces" for classroom use—colorful, filled with illustrations, simply written—officially approved by the Army and Navy, and published by the U. S. Infantry Association in cooperation with the U. S. Office of Education.
A special price for teachers, students, and high schools: 25 cents per copy for orders of 4 or more (single copies, 35 cents). Available from the INFANTRY JOURNAL, 1115 Seventeenth Street, NW., Washington, D. C.

VC Divisions in Action

"We are organized. What do we do now?"

Local ingenuity must answer this frequent question. How it is being answered in Kansas City, Kans., appears in a recent letter from J. F. Willemeyer, principal, Wyandotte High School.

"We do have a very outstanding High-School Victory Corps organization in our school. The membership now stands at about 700 in an enrollment of about 2,100. The whole movement is sponsored and promoted by the Student Cabinet of the school. They have taken this as their foremost activity of the year. I have appointed committees of faculty sponsors to work with the students in promoting the plan. In the Air Division the nucleus for the organization is found in our two

large classes of elementary aeronautics. They take charge of the model airplane building and secure speakers in that field. When former high-school boys are home on furloughs and engaged in air service, they are invariably invited to come up and speak to the group. The organization is planning to attend a lecture by Mr. de Seversky in our city next week.

"Our Land Division is cooperating with air raid wardens of the city and have appointed assistant wardens for each block. They also have a group of girls who take charge of the first-aid work in each block. The Sea Division had a young sailor speak to the group this morning and is promoting the donation of blood among the students during the remainder of the year. The Production Division devotes itself somewhat to guidance and placement with a view to guiding our students into productive employment that will assist the war effort. They also have under their general direction our consumer interest work and distributive education.

"One of the largest groups is the Community Service Division. They have been very active in food and gasoline rationing, promotion of morale building activities such as music and dramatics, promotion of War Stamps and Bond sales in the school, and all types of secretarial work that will aid the war effort. At present this group is sponsoring a concert to be given by the Music and Dramatic Departments next Tuesday. Admission to the concert is 10 cents, plus a certificate proving that the student has purchased at least one War Stamp during the week of the concert. Even though we sell over $400 in stamps each Tuesday, this does not include a large enough percentage of the entire student body."

What the VC Means to Virginia

Following is a statement presented by Virginia's Victory Corps Director, Fred M. Alexander, and approved by the State Advisory Committee:

"The High-School Victory Corps provides simple, definite, and organized means by which school officials, teachers, parents, citizens, and pupils may discharge their responsibilities to the country in the present crisis and may carry Virginia's program into action through a logical and easily managed pattern. Specifically, the High-School Victory Corps provides the high schools with:

"1. A simplified and easily administered organization for discharging their responsibilities to the war effort.

"2. The opportunity for the participation of their pupils in the school's war effort.

"3. The opportunity for participating in the war effort of the community.

"4. A means of guidance of boys and girls into appropriate types of training for the armed forces and civilian occupations essential to the war effort."

VICTORY CORPS AIDS

Land, Sea, and Air Service Divisions

Our Armed Forces.—A source book for students on the Army, the Navy, Coast Guard, and Marines. Exceptionally well illustrated with official photographs from the Army and Navy. 136 pages. Obtainable from the Infantry Journal, 1117 Fifteenth Street NW., Washington, D. C. Single copies, 35 cents. To students, teachers, or schools, 25 cents per copy in quantities of 4 or more. (See page 6).

SEND IN VC NEWS

Please send Victory Corps programs, newspaper clippings, human interest stories, outlines, and school newspaper accounts to Information Director, High-School Victory Corps, U. S. Office of Education, Washington, D. C.

How Navy Makes Flyers Physically Fit

"Ruggedness, endurance, agility, strength!"

These are the physical qualities the Navy builds into the men who fly its planes, according to a recent publication describing the curricula of the Navy Pre-Flight School at Chapel Hill, N. C.

Victory Corps Air Service sponsors and physical training directors can profitably study the physical fitness program of this school, and adapt portions of it to local conditions and to the capabilities of the high-school student. Thousands of high-school boys this year will go, as soon as they graduate, into pre-flight training for the Navy. And they will win their commissions and their "Wings of Gold"—or fail to win them—partly on the basis of the physical conditioning they have received before they apply for training.

At Chapel Hill and the other Navy pre-flight schools every man is required to participate in and succeed at 10 sports. Below they are listed, with some details about each, and what they are expected to do for the men striving for commissions in the Navy's air arm. The young man who comes to the Navy with skill in some of these activities will have a definite advantage over those who have none.

Swimming.—Heavily emphasized. No man can have too much skill in this activity. Ability to swim strongly and enduringly under the most adverse conditions has saved the life of many a Naval aviator, and helped him to grasp victory when defeat seemed upon him. The school simulates these adverse conditions. It has "abandon ship" drills, where the men fully clothed slide down ropes into the water, and swim away, discarding shoes and other hampering paraphernalia. Again, the men learn to swim fully clothed, carrying a gun above water to keep it dry. They practice with life jackets, and they learn how to make the best use of floating debris to help keep themselves above water. The use of some of these devices can add variety and interest to the periods in the high-school pool.

Wrestling.—Here the rough and tumble techniques of body-to-body combat are well suited to the high-school student. In actual fighting, wrestling and hand to hand combat are used together when a flyer must attack an enemy without weapons. Wrestling strengthens the whole body, builds coordination and accurate timing.

Gym-tumbling.—This activity teaches control of the body, helps a man in a situation where he might lose balance or sustain injuries in a fall. It teaches him the many variations of vaulting and climbing.

Boxing.—Ability to use the fists in attack and defense builds aggressive confidence and teaches give and take—perhaps better than any of the other sports.

Mass exercise (calisthenics).—The scientific body building effects of concerted exercise of men in masses are highly regarded in every military organization in the world.

Football.—The merits of this great sport in strengthening the body and in training the man to work as part of a team are highly advantageous to the prospective flyer. The Navy pre-flight schools have developed a complete and rigorous program in required football. Each man progresses from fundamental

drills to full period scrimmages. In addition, there is competition among the different squadrons in football, with six regulation games each week, and varsity football, which provides the station's team for outside competition.

Basketball.—Develops manoeuvering ability by quickening combined thought and action. Basketball drills also stress the necessity of relaxation.

Baseball.—This sport develops quickness of the eye and hand, ability to throw missiles, close watching of the opponent, and the psychology of competition.

Military track.—Many high schools and colleges already have this sport, on home-made tracks. A grueling obstacle course develops endurance, courage, and skills which carry over to actual combat.

The Navy expects to enroll 30,000 young men for instruction leading to commissions as officer pilots this year. A high proportion of them will come directly from the high schools. However, on the basis of past experience, it expects to graduate only about 22,000 of these. Of the 8 thousand who "wash out," probably a large number will go because their previous physical conditioning will not permit them to stand the rigorous physical regimen in the training schools. Every high school in the country owes it to the armed forces to see that its students are prepared for the physical hardships they are bound to suffer.

Victory Corps members can best prepare themselves to enter a course in physical conditioning like that in Navy pre-flight schools by following the instructions given in *Physical Fitness Through Physical Education for the Victory Corps*, Manual No. 2, 25 cents. This Manual was developed by a committee including representatives of the Navy, Army, U. S. Public Health Service, and leaders in physical education.

LAND SERVICE DIVISION

How the Army Fits Men to Jobs

Classifying the Army's millions is a task as large as the Army. Its purpose is to insure insofar as possible, having the right man in the right place at the right time. The following article explains the system which places inductees in positions best suited to their experience and aptitudes. This article is of interest to members of the Air Service Division who plan to join the Army Air Forces as well as to boys in the Land Service Division. A boy who wants to go to some particular military service will do well to prepare himself through training and experience for the day he faces "Classification."

America's soldiers today are specialists—not only in the firing of rifles and the intricacies of close order drill but in the more than 2,000 separate Army occupations. They are all fighting men, but they may be also locksmiths, horse breakers, lens grinders, translators, or X-ray technicians. Some Army jobs, like those of upholsterer, veterinarian, or well-driller, can be filled by finding men who have done similar work as civilians. Many other Army jobs—automatic rifleman, tank driver, paratrooper, and the like—have no counterparts in civilian life, and new soldiers must be chosen who can most easily be trained in these specialties.

Readers of EDUCATION FOR VICTORY have perhaps seen statements to the effect that the American soldier today has had, on the average, 2 years more schooling than the man called to the colors in 1917. This fact takes on new meaning when we realize the diversity of Army occupations and how vital are the training and skills which the new soldier brings to the Service. Men with sound educational backgrounds will be men easily trained—and time saved in training means a shorter war and an earlier victory. The educational factor will have increasing significance with the induction of the lower age groups who will, in most cases, have little or no occupational history.

Army classification includes weeding out men unfit for service, determining, through tests and interviews, the qualifications of those inducted; making assignments on the basis of individual abilities and aptitudes; choosing men for special types of training, and keeping records of the details of each soldier's military career. While modern scientific personnel methods have contributed much to the Army system, the size of the military organization and the many special problems involved have required new research and the creation of new instruments and techniques.

Begins at Induction

Army classification begins at the induction station, where men may be rejected on the basis of limited mental capacity or failure to meet minimum literacy standards. Only a small percentage of illiterate men are taken into the Service; these are usually given special training which may include elementary education and then they are placed in appropriate jobs.

At the 28 Army reception centers new soldiers are given the Army General Classification Test and other tests for special traits. On the basis of scores in the General Classification Test, men are placed in one of five Army grades: I. very rapid learners, II. rapid learners, III. average learners, IV. slow learners, and V. very slow learners. Nearly all men now inducted are also given a Mechanical Aptitude Test and a Radiotelegraph Operator Aptitude Test. The scores made in all tests are entered on the soldier's qualification card which, when completed, will follow the individual soldier wherever he may be assigned in the course of his Army career.

But tests, however reliable they may be, are only one part of classification. Trained Army interviewers—soldiers chosen because of some special background or ability—talk with each man. The interview covers such topics as education, job history, previous military experience, hobbies and special interests, and whether or not the new soldier speaks and reads a foreign language. These data are entered, like Army test scores, on the soldier's qualification card and serve to guide the officer who makes the initial assignment.

The cards are coded and punched, so that by using a "keysort" system, men with special qualifications are always easily located. For example, if at some future date 10 men are needed who speak Polish, they can be found promptly by a simple mechanical sorting of the cards. The classification process continues as long as a man is in uniform; every advance in rank, every training course completed, is recorded, and these records are always available to commanding officers.

During a soldier's service, he may be picked for special training in one of the many Army schools; he may be reassigned to a job where he will contribute more effectively; or he may be advanced to a non-commissioned rating or chosen to attend an officer candidate school from which he will graduate as a second lieutenant. These changes in duty or rank will depend upon his performance

e judged by his officers, and upon his owing in specially developed tests.

The tools and methods used in the rmy personnel system are planned and ontrolled by the Classification and Re-lacement Branch of The Adjutant Gen-ral's Office. Sections of this Branch onstruct psychological tests, analyze ivilian and military jobs, and devise the nstruments used in assignment and eeping records. Army officers and civil-an professionals with long experience in sychology and personnel work direct he program and the constant research hich underlies every part of the task.

The Army works diligently to sort and rain its manpower, and one of the most ncouraging aspects of this fact is that he far-reaching system now in opera-on may later serve to place men in ivilian life after victory. Col. George . Evans, Chief of the Classification and eplacement Branch wrote recently in a tter to *Forbes* magazine, "If Govern-ent support were obtained, the classi-ication system could, at the end of the ar, be placed in reverse and used as an gency for feeding men back into civilian ccupations. . . . The advantages of uch a system would be manifold . . ." this idea is adopted, Army personnel esearch and practice will have made not nly a great contribution to victory, but o the peace as well.

Ordnance Department of the U. S. Army

Many boys in the Land Service Divi-ion will find themselves within the ranks of the Ordnance Department of the Army Ground Forces after they are inducted. They will be able to adjust to their du-ies better by knowing in advance the ype of work they will be called to do. For this purpose, Maj. Gen. Levin H. Campbell, Chief, Ordnance Department, has prepared the following article, one of a series on the Army Ground Forces.

* * *

Message to the Teachers from Major General Campbell

The duty of the Ordnance Department of the U. S. Army is primarily to put into the hands of the American soldier and his Allies the best fighting weapons pro-duceable. These combat weapons are the world's best—they have been tried and proved on the battlefield. They are the culmination of 130 years of continu-ous research and invention by the Ord-nance Department in cooperation with American industry. The Ordnance De-velopment Program in time of peace is divided among six research and man-ufacturing arsenals. Each devotes its attention to a selected list of matériel. The design and development of weapons is carried on in collaboration with the fighting men of our Army. They set the styles of our fighting equipment. At the Aberdeen Proving Ground in Maryland, facilities are maintained for testing com-pleted models and for ballistic research. As part of the day's work, we are con-tinually bringing back captured enemy weapons and studying them for ideas.

The semiautomatic rifle we developed for infantry has three times the fire power of the renowned Springfield. It is the world's best. Ordnance research developed centrifugal casting, and per-fected cold working of cannon. Aerial warfare necessitated the development of gun mounts radically different in de-sign. Artillery carriages were rede-signed for high speed travel. Self-pro-pelled artillery mounts were designed and produced.

Ordnance personnel and civilian engi-neers both contributed to these develop-ments; all in collaboration with the fighting forces. As fighting weapons re-quire closer machining tolerances than most industrial products, the Ordnance Department developed the best system of gaging yet devised. This gaging sys-tem is rapidly spreading and no doubt will have a profound influence on indus-try in general.

What Ordnance Department Does

George Washington saw the need of a unit of the Army whose sole function would be the development and produc-tion of fighting weapons for the soldier. Out of General Washington's efforts there finally grew what is known today as the Ordnance Department of the U. S. Army. Its six research and manufactur-ing arsenals together with a few con-tracts placed among civilian factories in time of peace, were all that our national defense system could muster.

Since World War I a profound change has taken place. During that period a whole new array of fighting weapons was created, perfected, and put to full use. Included were tanks, self-propelled ar-tillery, high-angle, fast-shooting anti-aircraft guns, half-track cars, scout cars, etc., all operating under their own power and at high rates of speed. The fighting forces, as well as their weapons, have been put on wheels; armies have been mechanized, the automotive principle has been adopted, and its effect on the Army has been even more profound than it was on civilian life. Today the mech-anized division has 32 horsepower for every one of its soldiers!

The job of developing and equipping the U. S. Army with this matériel, as well as the more than 1,700 other items, including pistols, rifles, machine guns, antiaircraft guns, trench mortars, hand grenades, tanks, armored cars, scout cars, ammunition, cannon of all sizes, shell, fire-control instruments, bombs, etc., is a Herculean task, but the Ord-nance Department is taking it in its stride. The Department has expanded its arsenals; enlarged its 13 Ordnance District offices. It undertook the conver-sion of something like half of our civil-ian industry to war production. It spent several billion dollars erecting and equip-ping Government-owned, privately op-erated factories, all over America. The Ordnance Department directed the build-ing of a new explosives industry. It took over the motor transport supply for the Army. And last but not least, Ord-nance is in process of creating the great-est war matériel maintenance system this world has ever seen.

The colossal proportion of this main-tenance function (as well as armament production) can be partially gauged from the fact that the vehicles of a motorized triangular division of our Army will make a column 30 miles long if placed at 10-yard intervals. There are 2,434 motor vehicles; the prime movers tow 275 trailers and 116 guns. The 16,129 men and officers and the equipment of such a unit weigh 3,753 tons, and would require 1,707 freight cars on 17 trains each a mile long. Maintenance of these vehicles is added to the servicing of the 1,700 other major items produced by the Ordance Department.

When a tank, gun, or other fighting tool is put out of action, Ordnance troops must repair it in the shortest possible time. Therefore, rolling machine shops, together with repair trucks for many spe-cial purposes, wrecking trucks weighing 36,000 pounds each and equipped with 10-ton cranes and winches capable of pulling 55,000 pounds, have been devel-oped and produced in mass for use in the zones of combat. Ordnance troops re-quire special mechanical training and technical knowledge for the work. Hence whole regiments of soldier tech-nicians, already trained in more than 50 trades, were recruited direct from civil-ian life through the Affiliated Ordnance Unit system specially trained for this purpose. Many training centers were erected and equipped to teach these sol-diers the servicing of motorized and other war matériel. A huge reserve of spare parts was developed and the personnel created for handling, storing, shipping,

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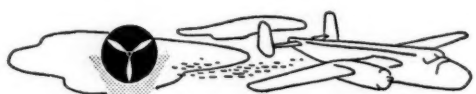
and distributing to theaters of war all around the world.

And then the Ordnance Department was assigned the vast motor vehicle section. With the design, purchase, and maintenance of motor vehicles, combat and otherwise, now centralized under the Ordnance Department, an Ordnance Tank Automotive Center has been established in Detroit, Mich. This is in addition to the seven motor supply depots scattered throughout the country to furnish motor supplies and spare parts, light and heavy maintenance companies of troops to operate them, various repair shops, training schools and other facilities—all for the purpose of enabling Army trucks to run when and where they are needed.

Furthermore, it became necessary to develop a new and complete system of maintenance based on a definite schedule of preventive maintenance operation. Motor maintenance functions are divided into four major types or echelons. The first and second echelons of maintenance, which perform the first and second groups of maintenance tasks, are the responsibilities of the arms or services of the Army to which the ordnance matériel is assigned. The third and fourth echelons are the responsibility of the Ordnance Department. And we continually pound home to the troops the fact that a bit of carefree carelessness in servicing may put the finger of death on the perpetrator and his unlucky comrades.



AIR SERVICE DIVISION

What Men in Navy Aviation Must Know

"How much math do you know? How much physics? How much chemistry?"

Like the monotonous tolling of a bell those three questions recur as young men seek ratings—or specialists jobs—in naval aviation. And all too often the answers to those questions toll the aspirant's hopes to their grave. For without these subjects, well studied and mastered, there is little hope the youngster can get one of the coveted positions in the Navy's Air arm.

Teachers in the secondary schools can perform a most useful service to their students—and for the country—by insisting that students meet high standards in mathematics, physics, and chemistry, and further, that aviation aspirants take as much of these subjects as they can.

Too many youngsters think that a passionate interest in aviation, an ability to repair gasoline engines and make them run, or even skill at constructing airplane models is all they need to prepare them for aviation in the Navy. These things are all highly desirable, of course, but they are no substitute for thorough grounding in mathematics, physics, and chemistry. The romantic days of aviation barnstorming were almost over when present-day high-schoo students were born, and with them went that picturesque figure, the patch-and-putter aviator. Today's airman is a specialist, and today's aviation is an exact science, requiring high educational qualifications of its devotees.

Below is a list of the five petty officer jobs in naval aviation, excluding that of pilot, and appended are the special educational requirements for those ratings, as they appear in an authoritative publication of the Navy. High-school students, if they wish to enter the Navy's Air arm, will do well to pay special attention to these subjects:

Aviation machinists' mates.—Complete arithmetic, algebra, elements of geometry, trigonometry, shop mathematics, blueprint reading, physics as related to expansion of metals, heat, energy, and internal combustion engines.

Aviation metalsmiths.—Complete arithmetic, algebra, applications of plane geometry, trigonometry, blueprint reading, shop mathematics, physics as related to heat, expansion, and composition of forces, chemistry as related to electrolysis, fusion and combustion.

Aviation radiomen.—Complete arithmetic, algebra, including logarithms, plane geometry, plane trigonometry, English, typewriting, elementary physics with reference to electricity, radio, and sound.

Aviation ordnancemen (gunners).—Complete arithmetic, algebra, geometry, trigonometry, applications of trigonometry, physics as related to work, energy, the law of falling bodies, magnetism, and electricity; chemistry as related to ignition and explosives.

Aerographers (weather observers).—Complete arithmetic, algebra, meteorological physics, thorough grounding in physical laws pertaining to gases, geometry, trigonometry, and the elements of astronomy.

200 High-School Students Take Flight Lessons

Six months ago most high-school students could only dream about aviation. This semester, flying is being brought right into the classroom and into every subject in the curriculum. Tens of thousands of boys are studying pre-flight aeronautics in more than half the Nation's high schools, and 200 boys are actually learning to fly under an experimental program of the Civil Aeronautics Administration.

Our young people are really getting "air-conditioned," catching up with the German youth who have been drilled in aviation for almost 10 years. They are not merely studying aviation in general terms. High-school juniors and seniors are buckling down to work on air navigation, meteorology, aircraft engines and structures, and other intensely practical subjects which should be part of every flyer's equipment.

"I can't stress too much the value of elementary study," said Col. Roscoe Turner, world famous speed pilot now engaged in the CAA's Army and Navy training program, on a recent Victory Corps broadcast. "I understand that aeronautics classes are being organized in thousands of high schools throughout the country—and boys and girls who take advantage of these courses are making a big step in the right direction. I encourage model plane building, and flying too, as an invaluable aid in understanding the theory of flight. The pilots the CAA turns out must deliver the goods by air to our fighting forces all over the world, and they really have to know their stuff.

"I know plenty of boys not much older than the high-school boys the CAA is training now who are flying two-motored planes across the ocean. Only the other day I ran into one of our graduates, just 22 years old, who had flown 20,000 miles in the last few weeks, including a few runs to Africa. And remember, if you wear glasses, or have another minor physical disability, you won't be barred from CAA training. As a matter of fact, you must be ineligible for regular combat flying before the CAA can accept you."

Production Service Division Assembly Programs

(This is the third in a series of articles suggesting activities and programs of interest to members of the Production Service Division.)

Many assembly programs of interest to all divisions of the High-School Victory Corps can be organized by the Production Service Division. These programs should portray not only the interests and work of the Production Service Division but should also show how this division dovetails with the rest of the Victory Corps program. They should be put on in the school auditorium, gymnasium, or shop and have educational, entertainment, and morale building values. Programs of this type will need careful planning and rehearsing, and should be scheduled to fit into the activity program of the school.

Motion-picture programs, talks or lectures, and plays and demonstrations will prove helpful. Motion pictures and slide films are available on a number of subjects of general interest such as safety on the job, at home, and at play, war materials in the making, women in industry, etc.

A talk or lecture by a well known person from a local industrial concern, on safety or production, would also be of interest.

Holding "open house" for the school and the community will show what the Production Service Division is doing to help the war effort. This should include demonstrations of various operations on machines used in the shops coupled with exhibits of finished products made in the school and in outside industry.

A short play put on by members of the Production Service Division on "Enrolling for War Work," or "How I Got a Job" will have general interest and educational value. Musical programs by members of the group might include "service songs" of the organization and music portraying industry at work. A panel or forum discussion could be planned with members of the faculty, industrial workers, and students of the Production Service Division participating. Such discussions could bring out the value of safety, health, regular work habits, and the prevention of waste in winning the war.

Radio programs dealing with any of the subjects listed above might be planned and carried out as real programs broadcast by a local station or as stage productions. Various types of safety uniforms and gloves, and devices such as respirators or masks, welding shields, and asbestos suits might be demonstrated at a Production Division "fashion show."

Films and slide films may be obtained from many different sources. Consult *1000 and One,* Index of nontheatrical films published by the Educational Screen, 64 East Lake Street, Chicago, Ill., and sold at 75 cents a copy.

Decalog for Youth

Many of our young people under 18 have been working at either full- or part-time jobs to help relieve the wartime manpower shortage. To promote proper utilization of the labor resources of youth with due regard to the welfare of youth and the future needs of the Nation, the War Manpower Commission has issued a statement of policy concerning the employment of youth under 18 years of age. The 10 basic points in this policy are:

1. School attendance laws and child-labor standards embodied in State and Federal laws should be preserved and enforced.

2. No one under 14 years of age should be employed full time or part time as a part of the hired labor force.

3. Youth under 18 years of age may properly be employed only at wages paid adult workers for similar job performance and in work suited to their age and strength, avoiding all occupations that are hazardous or detrimental to health or welfare.

4. Youth aged 14 or 15 may properly be employed only when qualified older workers are not available; and the employment is not in manufacturing or mining occupations.

5. In-school youth may properly be employed only to the extent that the combined school and work activities involve no undue strain, and that combined school and work hours, at least for youth under 16, do not exceed 8 per day.

6. In-school youth should not be employed during school hours unless the area or regional manpower director has determined that temporary needs of an emergency character cannot be met by full use of other available sources of labor.

7. When wartime emergency cooperative arrangements have been entered into with school authorities for the part-time employment of in-school youth as a part of the school program, the employer should be responsible for certifying to the school authorities that such employment will be in conformity with State and Federal laws governing employment of minors.

8. When it is necessary to transport young people to and from work, safe and adequate means of transportation should be provided. The period of work and transportation should not exceed 10 hours a day.

9. Where youth under 18 years of age are recruited in groups for agricultural work requiring them to live away from home, assurances should be furnished by appropriate community or other agencies that suitable living conditions, sanitary facilities, health protection, supervision, and leisure-time activities will be provided. In no case should youth aged 14 or 15 be recruited for work requiring them to live away from home except where such work is in connection with programs conducted by recognized youth-serving agencies that provide close supervision.

10. Any youth interested in work in another area should not leave his own area in search of work without first registering for employment at the nearest local office of the United States Employment Service or other agency designated by the War Manpower Commission.

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"VICTORY PIG" SALE

Proceeds from a February sale of hogs at the stock market in Blackshear, Ga., were invested in war bonds and stamps by members of the Victory Pig Club.

The club was organized last fall by the Patterson, Ga., chapter of the Future Farmers of America to utilize the money and time members could turn toward the war effort. Each boy in the chapter raised at least one pig. All pigs when entered in the club weighed under 50 pounds. By the first of February these 96 pigs had grown into large hogs ready for market, and at the sale brought in $2,251.

PREINDUCTION COURSES IN MATHEMATICS

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STATEMENT BY THE COMMISSIONER

The U. S. Office of Education has received urgent and repeated requests from individuals and organizations throughout the country to give the secondary schools detailed suggestions for the teaching of mathematics for preinduction purposes. In December 1942, the Office, in cooperation with the president of the National Council of Teachers of Mathematics, appointed a committee to make a survey of the mathematical needs of the armed forces and upon this basis to make a report concerning what the schools can do for the emergency. The committee consisted of Virgil S. Mallory, professor of mathematics, New Jersey State Teachers College at Montclair; William D. Reeve, professor of mathematics, Teachers College, Columbia University; Giles M. Ruch, Chief, Research and Statistical Service, Vocational Division, U. S. Office of Education; Raleigh Schorling, professor of education, University of Michigan; and Rolland R. Smith, specialist in mathematics for the Public Schools of Springfield, Mass., and president of the National Council of Teachers of Mathematics. Dr. Smith served as chairman of the committee.

Postinduction training in the armed forces is based in considerable measure on manuals of instruction prepared especially for the technical occupations of warfare. It was the thought of the committee that detailed analyses of a large number of these technical and field manuals would provide a first approximation to the mathematical needs of the military establishments, or at least afford a basis for evaluating the general character of the curricular modifications in secondary school mathematics dictated by the emergency. To this end, the committee requested and received the fullest cooperation of the Army, the Navy, and the Civil Aeronautics Administration.

The Civilian Preinduction Training Branch, Industrial Personnel Division, Services of Supply, War Department, selected approximately 50 of the Army instructional manuals covering occupations for which there is the greatest training need. These manuals were studied in detail and notes made of the various types of mathematics used, and of the mathematical background involved. In like manner the committee analyzed about 20 Navy training manuals made available by the Training Division, Bureau of Naval Personnel, Navy Department. Similar consideration was given to the training materials of the Civil Aeronautics Administration. The mathematical needs of typical war production industries were also considered by examination of about 50 unit courses used in the Federal-State program of Vocational Training for War Production Workers conducted cooperatively by State boards for vocational education and the U. S. Office of Education.

This report has been submitted to and approved by: The National Policy Committee for the High-School Victory Corps; the Civilian Preinduction Training Branch, Industrial Personnel Division, Services of Supply, War Department; the Training Division, Bureau of Naval Personnel, Navy Department; and the Civil Aeronautics Administration, Department of Commerce.

JOHN W. STUDEBAKER,
U. S. Commissioner of Education.

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Reasons For This Report

It is expected that the United States Army will increase to at least 7,500,000 by the end of 1943. The Navy and Coast Guard will in this period be enlarged by several hundred thousand. The total of all the armed forces may ultimately exceed 10,000,000. This further expansion in a mechanized war will increase the present shortage of men and women trained in mathematics and in practical physical science, both in the armed forces and the supporting war industries.

Of the men inducted into the Army, a large majority must be given some technical training either in preinduction or postinduction courses. The Navy requires an equally high percent of skilled personnel. The Navy operates nearly a hundred postinduction schools, and the Army a far greater number. An analysis of the various technical manuals used in these schools provides convincing evidence that much time is now wasted teaching simple mathematical principles and skills to many men who ought to know these things when they are inducted.

Many of the jobs classified as technical in the Army require only simple arithmetic. However, if one takes the technical manuals in the postinduction courses as a criterion, some of the least technical jobs require a level of mastery of mathematics higher than that needed by such workers in civilian life.

The technical manuals of the armed forces show that there are many mathematical applications that only the military organizations should teach, but it should not be necessary for them to give instruction in elementary mathematics.

The problem confronting mathematics teachers in high school is "How can instruction in mathematics be modified, and that immediately, so as to give the utmost aid in the emegency?" The crux of the problem lies in what can be done for boys and girls now in the last 1 or 2 years of the secondary school. For this reason, detailed suggestions have been given for pupils of this group who are not now studying mathematics. The time factors for the students receive due recognition in the recommendations which follow. General suggestions are given for those enrolled in the sequential courses.

Recommendations

The emergency need for boys and girls trained in mathematics has focused attention on the highly technical features of our mechanized civilization. The armed services and the supporting war industries need boys and girls trained in the proficient use of mathematics ranging from a real mastery of arithmetic fundamentals and such practical uses as are found in courses in general mathematics to the uses of higher mathematics in meteorology, ballistics, and other branches of science. Girls trained in mathematics are needed to replace men in industrial and other civilian positions which require the same range of uses of mathematics.

This range of uses of mathematics is very wide. Every high-school pupil must be able to compute with assurance and skill and many will be called on to use the simple algebra, informal geometry, scale drawing, and numerical trigonometry of the right triangle now taught in most courses in general mathematics. A smaller number will be needed who have mastered all of the sequential mathematics of the senior high school and college. The range of uses of mathematics is as wide as the abilities of high-school boys and girls. Intelligent guidance should guarantee

that every high-school pupil study mathematics according to his need and his ability. The 4-year sequence in mathematics, including trigonometry and solid geometry, should be taken by those students who have a real interest in mathematics, who are capable of mastery of the subject, or who are likely to use mathematics in their further training and ultimate occupation. Counselors must realize the need for certain mathematical skills and understandings.[1] On the other hand, it is wasteful to put pupils into such courses if their aptitudes and abilities indicate that they cannot obtain a secure mastery of the material they are studying. It should be remembered in every case that unless the mathematics taught is mastered thoroughly, it will neither be of practical use nor will it serve the other purposes of mathematical study.

The demands of the armed services and war industries for pupils well trained in mathematics are of immediate concern. These demands are equally urgent in the armed forces and in industrial production. They need not, however, conflict with the needs of boys and girls for adequate training in mathematics for future civilian life. The emergency calls for more effective teaching of mathematics with adequate practice and practical applications to the end that pupils can use mathematics in a wide variety of practical situations. Mathematics learned as mechanical manipulation only cannot have its fullest value either in the immediate emergency or in future civilian life.

The type of subject matter, the time element in teaching, and the number of practice exercises must be so selected and modified that a maximum of understanding is secured. Accuracy and skill in application must be a main consideration, not the amount of material covered. Instead of special courses in mathematics, practical problems can be used both to motivate and to point out emergency uses. Recommendations are made later concerning material which can safely be eliminated from the sequential courses to assure this more effective teaching as well as to permit the introduction of immediate applications to fit the emergency. Good teaching of mathematics, modified as suggested, is more valuable than specialized mathematics courses given by teachers not qualified to teach them, or taken by pupils who do not have the necessary foundation in mathematics and science or the maturity for their successful mastery.

Some modifications in content of the sequential courses are advisable both for the war emergency and for future civilian uses. The mathematics taught should be practical to the extent that it has immediate application, that it is needed for other essential mathematics, sciences, or other advanced courses, or that it pertains directly to the war effort. The immediate needs for war service should be met by reduction in the amount of less important material and the substitution of material which is more essential.

Recommendations for courses in mathematics are not confined to boys. Girls are needed to replace men in all branches of industry and civilian life in which mathematics from its simplest elements to its more advanced study is used. The need is great for women to fill vacancies as laboratory technicians and assistants, as junior engineers, as workers in industry, and in the teaching profession. There is also immediate need in civilian work, in the signal corps, and in industry for girls who are high-school graduates.

Finally, the high school is confronted with the need for effective guidance of boys and girls so each will study that mathematics which he can master and use effectively. Three general categories of pupils are recognized for purposes of the specific recommendations which follow.

1. *Pupils with little or no mathematical background.*—This group consists of boys and girls who have had not more than 1 year of training in mathematics beyond the eighth grade. If these pupils are near graduation, induction, or employment, they should take work of the type suggested by the special one-semester course described on pages 15 and 16. If they still have a year or more in school, they should take the special 1-year course described on pages 13, 14, and 15.

2. *Pupils who have studied mathematics for 2 years beyond the eighth grade but who are not now studying mathematics.*—These pupils will ordinarily have had 1 year of algebra and 1 year of geometry. If they are near graduation, induction, or employment, they should take work of the type suggested by the special one-semester course described on pages 15 and 16. If they still have a year in school, they should take the special 1-year course (p. 13). For these pupils the 1-year course can be more intensive than for those who have little background in mathematics.

3. *Pupils who are now enrolled in the 4-year sequential mathematics courses.*—The more capable of the pupils should continue in that work and should not substitute emergency courses in mathematics. The curricular modifications needed in the basic sequence in mathematics are those which will secure more effective teaching, permit the introduction of practical applications related to the war effort, and correct deficiencies in computational skill. Suggestions about material which may safely be omitted to make it possible to offer enrichment material and to introduce fundamentals of arithmetic and practical applications are given later. It should be realized that, under the impetus of the war, enrollments in this sequential work will tend to increase. This necessitates careful guidance and selection. These courses should be reserved for those who can pursue them with satisfaction and high achievement.

A Suggested Special 1-Year Course

Because of the limited time available, the committee had to choose between the alternatives of concentrating on the most critical phases of preinduction courses in mathematics or attempting a full coverage of all phases of such training, thereby delaying publication so long that the report would have no usefulness during the present school year. The decision was reached to prepare a rather detailed outline of this special 1-year course, leaving the way open to supplementary reports should the need develop.

The number of topics studied by any given class will depend upon the ability of the pupils. Many classes will be able to cover the entire outline. Mastery of selected topics is of greater value than superficial knowledge of this entire course.

Arithmetic

The importance of the fundamental arithmetical skills with integers and fractions, both common and decimal, has been so generally accepted as a part of the training of every American citizen,

[1] The following references will be useful to counselors and other guidance officers:
Victory Corps Series. Guidance Manual for the *High-School Victory Corps.* One free copy will be distributed to each high school. Additional copies (20 cents each) may be ordered from the Superintendent of Documents, Washington, D. C. (Pamphlet No. 4).
Minimum Essentials of the Individual Inventory in Guidance. By Giles M. Ruch and David Segel. U. S. Office of Education, Vocational Division, Bulletin No. 202. Occupational Information and Guidance Service Series No. 2. For sale by the Superintendent of Documents, Washington, D. C. Price, 15 cents.

that we should expect all pupils who go through our elementary schools to exhibit proficiency in such skills and their application. Many pupils, however, have been so poorly trained that there is a large number with little mastery of arithmetic. Such a situation should not be permitted to continue.

The fundamental processes with integers and fractions, both common and decimal, which are ordinarily taught in the first six grades of the elementary school furnish a basis for the real applications which should follow in the elementary and the secondary school. Arithmetic correlates well with algebra, informal geometry, and numerical trigonometry. All of these are important in solving wartime and peacetime problems.

A study of the various technical manuals suggests that both abstract drill and practical applications should be very simple. It is far better to build confidence and to strive for accuracy with simple illustrations than to confuse the pupils with involved computations that seldom, if ever, occur in the actual jobs of the fighting forces. This suggestion applies to the work in algebra and geometry as well as to arithmetic.

A detailed outline follows:

I. Whole numbers:
1. Reading and writing large numbers.
2. Computation:
   a. Addition of not more than six addends with not more than six digits in each.
   b. Subtraction with not more than six-digit numbers.
   c. Multiplication with the multiplicand containing not more than five digits and the multiplier not more than three digits.
   d. Division with not more than three-digit divisors.

II. Common fractions and mixed numbers:
1. Meaning (including the meaning of a fraction as an indicated quotient).
2. Fundamental operations.
   a. Denominators should be mainly powers of 2 up to 64.

III. Decimals:
1. Meaning.
2. Place value in numbers.
3. Fundamental operations (limitations similar to those under computations with whole numbers under I above).
4. Changing common fractions to their decimal equivalents and vice versa. Ability to use tables of equivalents.

IV. Percents:

The work on percents can be improved by practical illustrations from aviation and shop practice. In the postinduction manuals uses are made of all three cases of percentage. Practice should be principally on the first two cases: Finding a certain percent of a number and finding what percent one number is of another. The groundwork for teaching the second case should be laid by comparing two numbers as common fractions and as decimals. The topic of ratio and proportion affords an opportunity for refreshing the comparison concept.

V. Averages (arithmetic mean and median):
1. Meaning.
2. Computation (ungrouped data).

VI. Square root (see p. 15):
1. By division (trial and error).
2. By table (interpolation).
3. By the algebraic method.

VII. Information graphs.
VIII. Scale drawings (see p. 15).
IX. Keeping simple accounts.
X. Applied problems.

Informal Geometry

Geometry has a double value, first as knowledge and second, as a way of thinking. The importance of geometry in giving information of value in the daily life of every well-educated citizen has been neglected, if not entirely overlooked. In making an object of any kind, one must first conceive the object in order to avoid waste of time and material. He must know the shape and the relation of the various parts, must be able to measure them, and finally, to fit (locate) them in their proper places in the completed object.

In building a special 1-year course it must be decided what values of geometry are paramount for the national emergency, what content material should be selected, and what methods should be used to facilitate its teaching. For this purpose, informal geometry should include:

Intuitive geometry, where one looks at a figure and says that something is so because it could not be otherwise. Example, "If two straight lines intersect, the vertical angles are equal."

Experimental geometry, such as cutting out a paper triangle, tearing off the angles and then placing them adjacent to show that their sum is 180°.

Observational geometry, which consists of recognizing objects as typifying certain geometric forms, seeing certain relationships and important facts that exist between them, such as, "Any angle inscribed in a semicircle is a right angle," or, "If two parallel lines are cut by a transversal, the alternate interior angles are equal."

Geometric constructions of a fundamental type, such as bisecting a line or an angle.

In this special 1-year course teachers should realize that there will be little or no place for deductive proof. The early geometric knowledge of the race began with simple observations, intuitions, measurements of real objects, and recognition of their relations to each other. The classification of such knowledge as the race had attained and the organization of the facts of their experience into a deductive science were outgrowths of man's earlier struggles. As with the race, so with the individual; the real experiences with the facts should come first and the more formal propositions and their logical proofs later. It is conviction in the minds of the pupils that should be sought. Few pupils can understand what they have not physically perceived.

In all of this work, the choice of content and the emphasis in instruction should be placed upon those topics which have a practical bearing in the ordinary affairs of daily life.

The content of this part of the course should consist of:

I. Geometry of form:
1. Shapes seen in nature.
2. Geometric concepts:
   a. Point.
   b. Line:
      (1) Straight.
      (2) Broken.
      (3) Curve.
      (4) Horizontal.
      (5) Vertical
      (6) Parallel.
      (7) Perpendicular.
   c. Plane:
      (1) Plane figures:
         (a) Rectilinear—triangle (scalene, isosceles, and equilateral), quadrilateral (trapezoid, parallelogram, rectangle, square and rhombus), and regular polygons.
         (b) Curvilinear—circle, parabola, and ellipse.
   d. Solid:
      (1) Kinds:
         (a) With plane faces—rectangular solid, prism, and pyramid.
         (b) With curved faces—cylinder, cone, and sphere.
   e. Angle:
      (1) Measurement.
      (2) Kinds:
         (a) Acute.
         (b) Right.
         (c) Obtuse.
         (d) Straight.
3. Similarity:
   a. Types of similar figures:
      (1) Triangles and other plane figures.
      (2) Reduction or enlargement of similar figures.
      (3) Photographs and maps.
      (4) Scale drawings.
4. Congruent triangles (no proofs).
5. Mechanical drawing:
   a. Instruments to be used if they are available:
      (1) Ruler graduated to thirty-seconds, to tenths of an inch, and to millimeters.
      (2) Protractor.
      (3) Compasses.
      (4) Draftsman's instruments:
         (a) Drawing board.
         (b) T-Square.
         (c) Triangles (30°–60° and 45°–45°).
   b. Skills to be learned:
      (1) Drawing angles with a protractor.
      (2) Drawing parallel and perpendicular lines.
      (3) Drawing rectilinear figures.
6. Constructions with ruler and compasses:
   a. Circle.
   b. Bisecting a line segment.
   c. Bisecting an angle.
   d. Copying an angle.
   e. Dividing a line segment into more than two equal parts.
   f. Constructing triangles, given:
      (1) Three sides.
      (2) Two sides and the included angle.
      (3) Two angles and the included side.
      (4) Two sides and an angle opposite one of them.

II. Geometry of size:
1. Direct measurement:
   a. Appreciation of the limits of accuracy in measurement and of the fact that all *measurement is approximate:*
      (1) Limits of accuracy.
      (2) Significant digits.
      (3) Rounding off to reasonable results.
      (4) Common sense checks.
   b. Estimating and measuring:
      (1) Lengths—using ruler, compasses, calipers, and squared paper.
      (2) Angles—using the protractor.
      (3) Area of regular and irregular figures using ruler, squared paper, and simple formulas.
      (4) Volume and capacity.
      (5) Weight—avoirdupois, Troy, and apothecary's.
      (6) Time, including the international 24-hour day.
   c. Applied problems.
2. Indirect measurement:
   a. Scale drawing (commonly used in air and marine navigation):
      (1) Reading and using scales:
         (a) Two forms: 1 in.=6 ft. or representative fraction (R. F.) 1/72.
         (b) Changing a scaled distance to its value in relation to the original object.
         (c) Determining proper scaled distance to represent an object.
         (d) Using grids (squared paper) to make scale drawings.
         (e) Using metric scales.
         (f) Using ordinary ruler marked with a scale.
      (2) Drawing geometric figures to scale:
         (a) Rectangles.
         (b) Triangles, given three sides, two angles and a side, two sides and included angle, two sides and the angle opposite one of the sides.
         (c) Using triangles (including oblique triangles) to solve surveying and navigation problems (see also under "Use of vectors" below).
         (d) Using lines drawn on a grid to solve distance, rate, and time problems.
      (3) Method of representing directions:
         (a) Mariners' compass.
         (b) Naval bearings.
         (c) Surveyors' bearings.
      (4) Use of vectors:
         (a) Using a line segment to represent by its length and direction a velocity or the amount and direction of a force.
         (b) Using vectors to solve problems:
            Finding the resultant of two forces.
            Finding heading and correction angle, given course, air speed, and wind velocity.
            Finding heading, given course, speed, and current.
            Finding wind velocity, given heading, ground speed, and drift angle.
      (5) Representation of front, top, and side views of simple objects.
   b. Numerical trigonometry of the right triangle.
      (1) Development by a scale drawing of the tangent function for angles of 10°, 20°, 30° . . . 70°.
      (2) Use of 3- or 4-place tables of tangents to solve right triangles given two legs, or a leg and an acute angle.
      (3) Development of sine and cosine functions by scale drawing for angles of 10°, 20°, 30°, . . . 80°.
      (4) Use of 3-or 4-place tables of sines and cosines to solve triangles, given hypotenuse and side, or hypotenuse and acute angle.

Algebra

The main use of algebra is made in connection with literal notation, particularly in formulas and equations. Many topics generally taught in the sequential courses need not be taught in this special course. In particular the following topics should be omitted. Addition, subtraction, multiplication, and division of polynomials; special products; factoring, except the case of removing a common monomial factor; algebraic solution of simultaneous equations; quadratic equations, except the form $ax^2=k$; and so-called verbal problems. The level of difficulty of no topic should be greater than that required in commonly used formulas. This means that all topics should be held to the most simple examples.

A brief outline follows:

1. Symbolism:
   a. Letters as symbols for numbers.
   b. Symbols of operation including exponents, radical signs, and parentheses.
2. Formulas:
   a. Meaning.
   b. Evaluating formulas concerned with shop, industry, and the armed forces including aviation. (This requires only a knowledge of the meaning of symbolism and skill in arithmetic.)
3. Equations:
   a. Simple types such as $3n=6$, $n+3=6$, $n-3=6$, $\frac{n}{3}=6$, $2n+3=7$, and $2n-3=7$.
   b. Indirect use of the formula (substitution of given values and solution of resulting equation for the unknown).
4. Signed numbers:
   a. Meaning and use.
   b. Fundamental operations.
   c. Equations which can be reduced to the form $ax+b=cx+d$ including those having a single parenthesis.
5. Graphs:
   a. Familiarity with the coordinate system.
   b. Interpretation of many kinds of simple graphs.
   c. Graphing linear formulas.
   d. Solution of simultaneous equations (the intersection of two lines frequently furnishes the solution of problems in navigation).
6. Operations (only the simplest examples):
   a. Combining like terms.
   b. Laws of positive integral exponents.
   c. Removing parentheses.
   d. Multiplying a polynomial by a monomial.
   e. Division by a monomial.
   f. Factoring (one case, taking out common monomial factor).
   g. Algebraic fractions (no more difficult operations with fractions or fractional equations need be taught than those that are necessary for evaluating commonly used formulas).
   h. Ratio and proportion.
   i. Radicals:
      (1) Square root by computation.
      (2) Square root by table (interpolation).
      (3) Simplifying radicals only as needed in using tables.
      (4) Use in formulas.
   j. Quadratic equations of the form $ax^2=k$.

In the use of notation, recognition should be given to the fact that many practical formulas make use of both capital and small letters and letters with subscripts, primes, and superscripts. In substitution both common and decimal fractions as well as integers should be used. In equations, both common and decimal fractions should occur as coefficients.

Special 1-Semester Course

This course is an emergency refresher course for high-school pupils who are near graduation or induction but who are not at present studying mathematics. It should be realized that mathematical knowledge which the pupils do not possess cannot be refreshed. Hence, the material used in this course will depend on the previous training or lack of training of the pupils. For everyone it will contain the fundamentals of arithmetic after diagnostic tests have determined the needs of the pupils. For some, those with little or no mathematical background, this arithmetic plus certain essential topics from general mathematics such as scale drawing, including elements of blueprint reading, numerical trigonometry, informal geometry, and simple formulas and equations, will constitute the course.

For pupils who have had previous courses in algebra and geometry the refresher course should emphasize those aspects of mathematics that are particularly applicable and essential to the war effort. It should begin with the fundamentals of arithmetic. The review of algebra and geometry should reduce emphasis on operations with polynomials (eliminating long division completely).

The following should also be eliminated:

Special products and factoring (except monomial factors, and possibly the difference of two squares and the perfect trinomial square).

Fractions with other than monomial denominators.

Complex fractions (the type of fraction retained should be that found in formulas in geometry, physics, and simple shop situations).

Equations containing artificial fractions.

Complex work in radicals (the types of radicals retained should be those occurring in geometry, numerical trigonometry, and physics).

Quadratic equations (except those of the type $ax^2=k$).

Deductive logic in the establishment of geometric relations.

In the small high school it may be necessary to teach pupils of varying backgrounds in the same classes. In the larger high school at least two situations should be recognized:

1. A course for those pupils who have had no high-school mathematics or only

a 1-year course in general mathematics or algebra. This should contain, in addition to the first topic below, as many of the other topics as can be done effectively.

(*a*) Fundamentals of arithmetic to correct deficiencies discovered by diagnostic tests.

(*b*) Topics from general mathematics including scale drawing leading to the elements of blueprint reading; numerical trigonometry and uses of the Pythagorean Theorem; informal geometry including constructions, congruence, and similarity; and use of tables.

(*c*) Many practical applications from aeronautics, navigation, and shop uses of mathematics.[2]

2. A course for those who have had 2 or 3 years of mathematics. This should contain as many of the following topics as can be done well:

(*a*) Fundamentals of arithmetic to correct deficiencies discovered by diagnostic tests.

(*b*) Review of previous courses in mathematics omitting deductive derivation of geometric theorems and many of the purely manipulative and highly complicated expressions in algebra as indicated previously.

(*c*) Many applications from aeronautics, navigation, artillery fire, parallelogram of forces and triangle of velocities, shop uses of mathematics; use of tables and the slide rule.

Sequential Courses

The sequential work includes 4 years of mathematics beyond the eighth grade (seventh grade in States with a seven-grade elementary school) and should include solid geometry and trigonometry. Schools which find it possible may offer for the more interested and capable of these pupils additional work in mathematical analysis including topics selected from advanced algebra, spherical trigonometry, and the elements of analytical geometry and the calculus.

Each year of the course should contain some work in the fundamentals of arithmetic to insure increasing speed and accuracy in computation. Even competent pupils enrolled in the sequential courses do not always have adequate skill in applying fundamentals to whole numbers, fractions, decimals, and percents. In many schools the courses in algebra and geometry fail to maintain arithmetic skills. This work should not be aimless but should be skillfully selected practice to correct deficiencies made evident through diagnostic tests. This work in arithmetic has already been outlined in connection with the special 1-year course.

Many practical applications from physics, shop and industry, engineering (including use of the slide rule), navigation, artillery fire, and the parallelogram of forces including the triangle of velocities should be introduced. In selecting the applications there is need to guard against choosing those in which the technicalities are too great. A selected bibliography of such material is given at the end of this report.

Modifications in content to permit of more careful teaching and of the introduction of practical applications are possible. If an attempt is made to cover too much material, pupils will not receive sufficient practice to secure reasonable mastery of the subject.

Suggestions for modification follow:

Algebra.—Reduce the amount of time spent on special products and factoring, on complex fractions, on fractions with other than monomial denominators, on equations containing such fractions, and on complex work in radicals.

Increase the amount of time spent on fundamentals of arithmetic, numerical trigonometry, on the use of practical formulas in industry, aeronautics, and science, and in the solution of practical problems in those branches.

Plane Geometry.—The objectives of a course in plane geometry should be to acquaint the pupil with geometric facts and their application, and to give him an appreciation of postulational thinking. It is not necessary to demonstrate all of the propositions in a deductive course. Some can be treated informally. By wise selection of theorems to be proved, time will be provided for the fundamentals of arithmetic and for continued use of algebra as well as for such practical problems as: "Doubling the angle on the bow" and "bow and beam sailing," radius of action problems, the parallelogram of forces and the triangle of velocities, numerical trigonometry, the extension of locus to include the derivation of the equations for the circle, parabola, ellipse, and hyperbola, the law of sines and cosines, and the use of the transit and other instruments.

Plane Trigonometry.—Omissions may be made in the development of trigonometric analysis including the proof of general trigonometric identities and the solution of trigonometric equations. Pupils definitely pointed toward higher mathematics will, however, need some work with equations and identities.

Solid Geometry.—The proofs of formulas for surfaces and volumes can be treated informally. Deduction should be limited to the relations between lines and planes in space and to figures drawn on the sphere. Theorems about the intersection of two planes and all of those theorems about perpendicular lines and planes and parallel lines and planes are particularly important for an understanding of three-dimensional space. Relations of figures on a sphere lead directly to terrestrial geometry and should be emphasized. Small circles and great circles should be connected with circles of latitude and meridians of longitude on the earth's surface and with great-circle sailing.[3]

Time thus saved in both trigonometry and solid geometry can profitably be spent on improving skills in computation, on practical applications including the use of the slide rule, elements of navigation, or on mathematical analysis including topics from analytic geometry, the calculus, or advanced algebra. These topics, however, should not be introduced to the detriment of a clear understanding of elementary work.

Suggestions to Teachers

Teachers of mathematics whose academic and professional training has been adequate will need further training to carry out the recommendations in this report as follows:

1. Study of wartime and industrial applications of the fundamental ideas of mathematics.

2. Further training in science in order to correlate mathematics properly with science.

3. Refresher courses in colleges and universities when necessary.

Teachers in other fields who will be inducted into the teaching of mathematics because of the emergency, and there may be a considerable number of them, should in every way seek to pre-

[2] A fertile source of both wartime and industrial applications is the Seventeenth Yearbook of The National Council of Teachers of Mathematics, *A Source Book of Mathematical Applications*. Bureau of Publications, Teachers College, Columbia University, New York, N. Y., 1943. Price, $2.

[3] It is interesting to note that this recommendation concerning solid geometry is supported by a recent statement of the College Entrance Examination Board with respect to its new Comprehensive Mathematics Test. "This examination will test the candidates' knowledge of algebra through progressions, plane geometry, trigonometry and logarithms, and intuitive [informal] and computational solid geometry. It is designed for students who wish to enter courses in engineering or other sciences, which have mathematics as a prerequisite. Candidates for this examination will normally have had 4 years of mathematics beyond the eighth grade."

pare themselves to do as acceptable work as possible. Those who have little or no knowledge of what they are to teach cannot expect to be successful. The main methods for improvement consist of:

1. Attendance at summer schools and in part-time courses especially planned to meet their needs. Such courses should include professionalized subject matter in the content material which they have to teach.

2. Departmental meetings where problems of the emergency should be discussed (in the larger city school systems experienced teachers of the departments of mathematics should feel obligated to give as much help as possible to the less experienced ones).

3. Studying the content of elementary mathematics.

4. Studying the best literature on the teaching of mathematics. A short selected bibliography is given which should be helpful to those who need it.

5. The teacher of physics and chemistry will be able to suggest the types of formulas and equations used in applied science.

6. In the larger school systems having vocational schools or departments, the instructors in trade and industrial education can be of a great deal of assistance to the inexperienced teacher by suggesting industrial applications of mathematics.

Bibliography

The following bibliography is not intended to be exhaustive, but suggestive of practical applications that may be helpful to teachers of mathematics and science. It includes only the more elementary works. Some examples and some of the developmental material in many of these books are open to criticism, but thoughtful selection will yield a large amount of helpful material. Textbooks are not listed, for obvious reasons.

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Suggested Unit Course in Blue Print Reading for Beginners in Machine Shop Practice. Also a Teacher's Manual and Answer Book for the same. The State Education Department of New York, Albany, N. Y.

Suggested Unit Course in Mathematics for Beginners in Machine Shop Practice. The State Education Department of New York, Albany, N. Y.

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Elementary School and Red Cross Class

Cooperate on Lunch Program

Members of a Red Cross class in mass cookery appealed to the principal of a St. Louis elementary public school for help in finding a place to practice using quantity recipes. Children in the school needed food. Limited space was found for the cookery class to set up and equip a kitchen and lunchroom, and the needs of both class and children were met. Even more was accomplished when the children took part in the food preparation. A member of the class, Mrs. Fred Wulfing, tells the following story of how 15 members of the Red Cross Canteen Corps worked with the principal, teachers, and children of the Jackson School to prepare and serve well-balanced lunches each school day:

"It has been my particular job to plan the menus and to help the various workers and children carry them out. Each day we have three Red Cross workers and three shifts of children, two boys and two girls each, making 12 children each day, or 60 children, 30 boys and 30 girls in all for each week. After each shift has had several weeks' experience either as cooks, cleaner-ups, or servers, they change so each has all the experiences. Then another shift of 12 from their room begins the work. In this way, over a period of time all the children in a room will have had the three experiences.

Copy Recipes

"The children who do this work are in the VIII, VII, VI, and V grades, and they come from five different rooms—one group from a room on Monday, another from another room on Tuesday, and so on. It is an especially thrilling satisfaction when the children copy their recipes we have used and try them out on their families at home.

"Our kitchen is equipped with a regular household gas range, a sink, a large table, ice box, and shelves for the cooking utensils which the boys have made. We use a double wash tub for washing and rinsing the dishes and we make our own soap out of left-over fat. The children were especially interested in the soap-making process and we are hoping that they will also try that recipe at home.

"Let me illustrate our work by a typical day. Two Red Cross workers and four children who are cooks for that day meet in the kitchen at 9 o'clock in the morning. Suppose the menu to be prepared is as follows: Vegetable soup, crackers, fresh apples, oatmeal cookies. The soup stock has been cooked the day before by those who have done the cooking. Everyone must fall to and quickly get the vegetables cut up fine and into the boiling stock. When that is done one cook watches the soup, another washes the apples, and the other two start the cookie dough. When we bake cookies or biscuits we try to have each child make his own batch. They bake them all under the watchful supervision of the Red Cross worker.

Table Setters

"At 11 o'clock four more children in aprons and caps come down from their classes. These are the table setters. Their jobs are to sweep the dining room—(the girls' play room that up to 11 o'clock was the industrial arts shop or the theater perhaps, or the play room) wash the tables, set them, and help serve the lunch. Also at 11 another Red Cross worker arrives. Her job is to supervise the table setting, the serving, and the dish washing. At 12 o'clock lunch is served. By this time four more children are there in aprons and caps who help to serve and who wash the dishes after lunch.

"We serve an average of 120 each day. At each table 20 children sit down together. They are served by the cooks quietly and they are supposed to eat everything—which they do with pleasure. Needless to say we have never yet baked enough cookies! Our food is made from surplus commodities given by the Government and supplemented by such items as sugar, spices, baking powder, and fresh fruits, vegetables and meats which we buy with the 5 cents for each lunch collected from about half of the children. The other half are given free lunches, but no one knows who gets a free lunch except the child concerned.

"I wish I could begin to tell of the enthusiasm on the part of the Red Cross workers for their jobs. They have taken a personal interest in each child with whom they have contact. One worker is going to have a picnic for the children who work the day she is there. Another worker presented each of her group of children with a small gift at graduation time. Another member had to leave town for 2 weeks, but she said, 'Please keep my job for me, I enjoy it more than any job I ever had.'

Eating Raw Carrots

"As we work with children we try to bring into our conversation small bits about nutrition. One boy told us he never ate vegetables—he didn't like them, so his mother never cooked them. This brought up a discussion of vitamins and what happens to our bodies when we do not eat certain foods. The next time the boy appeared he told us he had been eating raw carrots and had persuaded his mother to cook some cabbage. The principal and teachers are as interested as we are in the project. In fact, if they weren't I'm afraid it wouldn't be as successful as it is. It is an example of unselfish cooperation on the part of every one concerned."

MALARIA CONTROL

The Public Health Service experimental health education project for malaria control has now been completed and some of the results are given in the following report from Dr. Mayhew Derryberry of the U. S. Public Health Service and Consultant for the U. S. Office of Education, who collaborated in the experiment:

The program entailed employing for the summer months 26 outstanding teachers in as many selected counties to serve as assistants in health education. The teachers were then sent to Memphis, Tenn., for a 2-week intensive training course concerning the facts of malaria and techniques of community education. They then returned to their home counties where they were assigned to the local health department. Their tasks were to arouse the citizens to the menace of malaria and to stimulate them to take action for its control.

Although the project was carried on in rural areas, over 38,000 persons were addressed at meetings, and an additional 10,000 were reached through personal interview. Countless others had opportunity to learn about malaria from the 362 news articles printed in local papers and the 63 radio programs broadcast. Use was made of all types of visual aids including motion pictures, slides, posters, and special exhibits.

Cooperation

The work of the assistants was facilitated through the extensive cooperation which they were able to enlist in their communities. Leaders of various organizations planned meetings for their groups; local radio managers contributed free radio time; and editors gave news space and favorable editorial comment. Hardware dealers set up exhibits of screening material; and druggists displayed available larvicides and medically approved drugs; while librarians secured and exhibited books on malaria.

County farm agents and home demonstration agents invited the assistants to speak at meetings such as the Grange, the Home Demonstration Club, the Homemakers, and the 4-H Club. Both Boy Scouts and Girl Scouts became interested in searching for larvae, distributing pamphlets, and helping at mass meetings. Civic clubs offered prizes for the best control work done. Town authorities renewed their oiling processes. Vocational teachers supervised the building of screens in their workshops and helped people, who had no tools of their own, to screen their homes.

The assistants planned to extend malaria education in the schools during the present school year. Discussions were conducted with teachers and students in eight teachers colleges in their territory. Material was assembled for use in the schools during the fall term and the interest and participation of superintendents, principals, and vocational and science teachers were enlisted. In addition, malaria instruction was discussed at many of the county teachers' meetings.

Results

Four hundred and sixty-eight houses have been completely screened and the screens repaired on 1,529 others. Spraying or oiling was inaugurated in 790 places and 139 minor drainage projects were undertaken. But the results do not stop there. As an outcome of the work of two of the assistants, in cooperation with health and educational authorities in their counties, a health educational program was devised to be used in the schools of those counties during this school term. It is recommended by the State superintendent of education for use in all counties in this State. In the other project counties, continued interest is evidenced by the teaching of units on malaria in the schools.

Additional Contributions

Among the additional contributions that have grown out of this program is the publicity given to the county health department in the project counties. Many residents, now conscious of the health department and its activities, were formerly either unaware of its existence or knew little of its program.

Another contribution is the growing spirit of cooperation between school and health department in these areas. The choice of a teacher from the school system to administer the program, and the conferences with superintendents and principals and addresses at teachers' meetings have not only produced an awareness of malaria and other health problems among teachers but have also fostered a closer relationship between the health department and the department of education.

Perhaps the most inspiring characteristic of the whole program was the amount of imagination exhibited by the teachers who carried on this work.

This program illustrates the kind of thing that teachers can do toward the war effort once they become aware of the problems in their own communities. At this time there is great need on the home front for teachers to concern themselves with community problems and to assume a leader's responsibility in solving them.

Experience gained from this project will add to the more efficient administration of an expanded program during the coming year. For the new program between 100 and 125 assistants will be employed. In addition to malaria control, in certain sections efforts will be made to include education for the control of *Aedes aegypti*, the yellow fever mosquito.

Higher Educational Institutions ☆ and the War ☆

Institutions Approved for Placement of Army and Navy Training Programs

The Joint Committee for the Selection of Non-Federal Educational Institutions has released a list of 52 additional colleges and universities which it has tentatively approved for the placement of war training programs. This is the fourth list of approvals and is supplementary to those formerly released. It is anticipated that further lists of approvals will be released weekly.

The total number of institutions on the approved list is 479. Actual contracts will be made with only those institutions whose facilities, upon inspection, prove acceptable to the designated branch of the armed service and to whom the proposed contracts are acceptable.

Based on their normal enrollments, the schools selected are distributed as follows:

Normal enrollment	*Number of schools*
Under 500	161
500–1,000	134
1,000–2,000	85
Over 2,000	99
	479

The following is a list of the institutions approved for inspection and possible contracts up to and including the list released March 7:

Alabama

Alabama Polytechnic Institute, Auburn.
Birmingham-Southern College, Birmingham.
Howard College, Birmingham.
Tuskegee Institute, Tuskegee Institute.
University of Alabama, University.

Alaska

University of Alaska, College.

Arizona

Arizona State Teachers College, Flagstaff.
Arizona State Teachers College, Tempe.
University of Arizona, Tucson.

Arkansas

Arkansas Agricultural and Mechanical College, Monticello.
Arkansas Polytechnic College, Russellville.
Arkansas State College, Jonesboro.
Arkansas State Teachers College, Conway.
Henderson State Teachers College, Arkadelphia.
Hendrix College, Conway.
Ouachita College, Arkadelphia.
University of Arkansas, Fayetteville.

California

California Institute of Technology, Pasadena
College of Medical Evangelists, Loma Linda.
College of Physicians and Surgeons (dental school), San Francisco.
College of the Pacific, Stockton.
Compton District Junior College, Compton.
Fresno State College, Fresno.
Long Beach Junior College, Long Beach.
Los Angeles City College, Los Angeles.
Occidental College, Los Angeles.
Pacific Union College, Angwin.
Pasadena Junior College, Pasadena.
Pomona College, Claremont.
Stanford University, Stanford University.
University of California, Berkeley.
University of California, Los Angeles.
University of Redlands, Redlands.
University of San Francisco, San Francisco.
University of Santa Clara, Santa Clara.
University of Southern California, Los Angeles.
Whittier College, Whittier.

Colorado

Colorado College, Colorado Springs.
Colorado School of Mines, Golden.
Colorado State College of Agriculture and Mechanic Arts, Fort Collins.
University of Colorado, Boulder.
University of Denver, Denver.
Western State College of Colorado, Gunnison.

Connecticut

Trinity College, Hartford.
University of Connecticut, Storrs.
Wesleyan University, Middletown.
Yale University, New Haven.

Delaware

University of Delaware, Newark.

District of Columbia

American University, Washington.
Catholic University of America, Washington.
Georgetown University, Washington.
George Washington University, Washington.
Howard University, Washington.

Florida

University of Florida, Gainesville.
University of Miami, Miami.
University of Tampa, Tampa.

Georgia

Atlanta-Southern Dental College, Atlanta.
Berry College, Mount Berry.
Emory University, Emory University.
Georgia School of Technology, Atlanta.
Mercer University, Macon.
North Georgia College, Dahlonega.
University of Georgia, Athens.

Idaho

College of Idaho, Caldwell.
University of Idaho, Moscow.

Illinois

Augustana College and Theological Seminary, Rock Island.
Bradley Polytechnic Institute, Peoria.
DePaul University, Chicago.
Elmhurst College, Elmhurst.
Illinois College, Jacksonville.
Illinois Institute of Technology, Chicago.
Illinois State Normal University, Normal.
Illinois Wesleyan University, Bloomington.
James Milliken University, Decatur.
Knox College, Galesburg.
Lake Forest College, Lake Forest.
Loyola University, Chicago.
North Central College, Naperville.
Northwestern University, Evanston and Chicago.
Southern Illinois Normal University, Carbondale.
Shurtleff College, Alton.
University of Chicago, Chicago.
University of Illinois, Urbana.
Wheaton College, Wheaton.

Indiana

Ball State Teachers College, Muncie.
Butler University, Indianapolis.
Culver Military Institute, Culver.
Earlham College, Earlham.
Evansville College, Evansville.
Franklin College of Indiana, Franklin.
Indiana Central College, Indianapolis.
Indiana State Teachers College, Terre Haute.
Indiana University, Bloomington.
Purdue University, Lafayette.
Rose Polytechnic Institute, Terre Haute.
University of Notre Dame, Notre Dame.
Wabash College, Crawfordsville.

Iowa

Coe College, Cedar Rapids.
Cornell College, Mount Vernon.
Iowa State College of Agriculture and Mechanic Arts, Ames.
Iowa State Teachers College, Cedar Falls.
Iowa Wesleyan College, Mount Pleasant.
Luther College, Decorah.
Morningside College, Sioux City.
St. Ambrose College, Davenport.
State University of Iowa, Iowa City.
University of Dubuque, Dubuque.

Kansas

Bethany College, Lindsborg.
College of Emporia, Emporia.
Fort Hays Kansas State College, Hays.
Kansas State College of Agriculture and Applied Science, Manhattan.
Kansas State Teachers College, Emporia.
Kansas State Teachers College, Pittsburg.
Municipal University of Wichita, Wichita.
Southwestern College, Winfield.
University of Kansas, Lawrence.
Washburn Municipal University of Topeka, Topeka.

Kentucky

Berea College, Berea.
Centre College of Kentucky, Danville.
Eastern Kentucky State Teachers College, Richmond.
Murray State Teachers College, Murray.
University of Kentucky, Lexington.
University of Louisville, Louisville.
Western Kentucky State Teachers College, Bowling Green.

Louisiana

Centenary College, Shreveport.
Louisiana State University, University.
Loyola University, New Orleans.
Southwestern Louisiana Institute, Lafayette.
Tulane University of Louisiana, New Orleans.

Maine

Bates College, Lewiston.
Bowdoin College, Brunswick.
Colby College, Waterville.
University of Maine, Orono.

Maryland

Johns Hopkins University, Baltimore.
Mount St. Mary College, Emmitsburg.
University of Maryland, College Park.
Western Maryland College, Westminster.

Massachusetts

American International College, Springfield.
Amherst College, Amherst.
Babson Institute, Boston.
Boston College, Boston.
Boston University, Boston.
Clark University, Worcester.
College of the Holy Cross, Worcester.
Harvard University, Cambridge.
Massachusetts Institute of Technology, Cambridge.
Massachusetts State College, Amherst.
Northeastern University, Boston.
Tufts College, Medford.
Williams College, Williamstown.
Worcester Polytechnic Institute, Worcester.

Michigan

Albion College, Albion.
Alma College, Alma.
Central Michigan College of Education, Mount Pleasant.
Fordson Junior College, Dearborn.
General Motors Institute, Flint.
Kalamazoo College, Kalamazoo.
Michigan College of Mining and Technology, Houghton.
Michigan State College of Agriculture and Applied Science, East Lansing.
Michigan State Normal College, Ypsilanti.
University of Detroit, Detroit.
University of Michigan, Ann Arbor.
Wayne University, Detroit.
Western Michigan College of Education, Kalamazoo.

Minnesota

Carleton College, Northfield.
Concordia College, Moorehead.
Gustavus Adolphus College, St. Peter.
Hamline University, St. Paul.
St. John's University, Collegeville.
St. Mary's College, Winona.
State Teachers College, St. Cloud.
University of Minnesota, Minneapolis.

Mississippi

Millsaps College, Jackson.
Mississippi College, Clinton.
Mississippi State College, State College.
Sunflower Junior College, Moorhead.
University of Mississippi, University.

Missouri

Drury College, Springfield.
Jefferson City Junior College, Jefferson City.
Missouri School of Mines, Rolla.
Northeast Missouri State Teachers College, Kirksville.
Northwest Missouri State Teachers College, Maryville.
Park College, Parkville.
Rockhurst College, Kansas City.
St. Louis University, St. Louis.
Southwest Missouri State Teachers College, Springfield.
University of Kansas City, Kansas City.
University of Missouri, Columbia.
Washington University, St. Louis.
Westminster College, Fulton.

Montana

Billings Polytechnic Institute, Polytechnic.
Carroll College, Helena.
Montana School of Mines, Butte.
Montana State College, Bozeman.
Montana State University, Missoula.
Northern Montana College, Havre.

Nebraska

Creighton University, Omaha.
Dana College, Blair.
Hastings College, Hastings.
Municipal University of Omaha, Omaha.
Nebraska State Teachers College, Peru.
Nebraska State Teachers College, Wayne.
University of Nebraska, Lincoln.

Nevada

University of Nevada, Reno.

New Hampshire

Dartmouth College, Hanover.
St. Anselm's College, Manchester.
University of New Hampshire, Durham.

New Jersey

Drew University, Madison.
Newark College of Engineering, Newark.
Princeton University, Princeton.
Rutgers University, New Brunswick.
Stevens Institute of Technology, Hoboken.

New Mexico

Eastern New Mexico College, Portales.
Loretto Academy, Las Cruces.
Loretto Academy, Santa Fe.
New Mexico College of Agriculture and Mechanic Arts, State College.
New Mexico Highlands University, Las Vegas.
New Mexico Military Institute, Roswell.
New Mexico School of Mines, Socorro.
New Mexico State Teachers College, Silver City.
Sandia School, Albuquerque.
St. Michael's Academy, Santa Fe.
Spanish-American Normal School, El Rito.
University of New Mexico, Albuquerque.

New York

Alfred University, Alfred.
Brooklyn College, Brooklyn.
Canisius College, Buffalo.
City College, College of the City of New York, New York.
Clarkson College of Technology, Potsdam.
Colgate University, Hamilton.
Columbia University, New York.
Cooper Union, New York.
Cornell University, Ithaca.
Fordham University, New York.
Hamilton College, Clinton.
Hobart and William Smith Colleges, Geneva.
Hofstra College, Hempstead, L. I.
Hunter College of the City of New York, New York.
Long Island College of Medicine, Brooklyn.
Manhattan College, New York.
New York Medical College, Flower and Fifth Avenue Hospitals, New York.
New York State College of Ceramics, Alfred University, Alfred.
New York State College for Teachers, Albany.
New York State Veterinary College, Cornell University, Ithaca.
New York University, New York.
Niagara University, Niagara University.
Polytechnic Institute of Brooklyn, Brooklyn.
Pratt Institute, Brooklyn.
Queens College, Flushing, L. I.
Rensselaer Polytechnic Institute, Troy.
Rochester Athenaeum and Mechanics Institute, Rochester.
Rochester Business Institute, Rochester.
St. Bonaventure College and Seminary, St. Bonaventure.
St. John's University, Brooklyn.
St. Lawrence University, Canton.
Syracuse University, Syracuse.
Union University, Schenectady.
Union University, Albany Medical College, Albany.
University of Buffalo, Buffalo.
University of Rochester, Rochester.
Webb Institute of Naval Architecture, New York.

North Carolina

Agricultural and Technical College of North Carolina, Greensboro.
Davidson College, Davidson.
Duke University, Durham.
Elon College, Elon College.
Lenoir-Rhyne College, Hickory.
North Carolina College for Negroes, Durham.
Presbyterian Junior College for Men, Maxton.
State College of Agriculture and Engineering of the University of North Carolina, Raleigh.
University of North Carolina, Chapel Hill.
Wake Forest College, Wake Forest.
Bowman Gray School of Medicine, Wake Forest.

North Dakota

Jamestown College, Jamestown.
North Dakota Agricultural College, State College.
State Teachers College, Minot.
State Teachers College, Valley City.
University of North Dakota, University.

Ohio

Antioch College, Yellow Springs.
Baldwin-Wallace College, Berea.
Bowling Green State University, Bowling Green.
Capital University, Columbus.
Case School of Applied Science, Cleveland.
College of Wooster, Wooster.
Denison University, Granville.
Fenn College, Cleveland.
Heidelberg University, Tiffin.
Hiram College, Hiram.
John Carroll University, Cleveland.
Kent State University, Kent.
Kenyon College, Gambier.
Marietta College, Marietta.
Miami University, Oxford.
Mount Union College, Alliance.
Muskingum College, New Concord.
Oberlin College, Oberlin.
Ohio State University, Columbus.
Ohio University, Athens.
Ohio Wesleyan University, Delaware.
University of Akron, Akron.
University of Cincinnati, Cincinnati.
University of Dayton, Dayton.
University of Toledo, Toledo.
Western Reserve University, Cleveland.
Wilberforce University, Wilberforce.
Wittenberg College, Springfield.
Xavier University, Cincinnati.

Oklahoma

Bethany-Peniel College, Bethany.
Cameron State Agricultural College, Lawton.
East Central State College, Ada.
Northeastern State College, Tahlequah.
Northern Oklahoma Junior College, Tonkawa.
Northwestern State College, Alva.
Oklahoma Agricultural and Mechanical College, Stillwater.
Oklahoma Baptist University, Shawnee.
Oklahoma City University, Oklahoma City.
Oklahoma College for Women, Chickasha.
Oklahoma Military Academy, Claremore.
Phillips University, Enid.
University of Oklahoma, Norman.
University of Tulsa, Tulsa.

Oregon

Eastern Oregon College of Education, La Grande.
North Pacific College of Oregon, Portland.
Oregon College of Education, Monmouth.
Oregon State College, Corvallis.
University of Oregon, Eugene.
Willamette University, Salem.

Pennsylvania

Albright College, Reading.
Allegheny College, Meadville.
Bryn Mawr College, Bryn Mawr.
Bucknell University, Lewisburg.
Carnegie Institute of Technology, Pittsburgh.
Dickinson College, Carlisle.
Drexel Institute of Technology, Philadelphia.
Duquesne University, Pittsburgh.
Franklin and Marshall College, Lancaster.

Geneva College, Beaver Falls.
Gettysburg College, Gettysburg.
Grove City College, Grove City.
Hahnemann Medical College and Hospital, Philadelphia.
Haverford College, Haverford.
Hershey Junior College, Hershey.
Jefferson Medical College, Philadelphia.
Juniata College, Huntingdon.
Lafayette College, Easton.
Lehigh University, Bethlehem.
Muhlenberg College, Allentown.
Pennsylvania Military College, Chester.
Pennsylvania State College, State College.
Penn Hall Junior College and Preparatory School, Chambersburg.
St. Joseph's College, Philadelphia.
St. Vincent College, Latrobe.
State Teachers College, Bloomsburg.
State Teachers College, Edinboro.
State Teachers College, Indiana.
State Teachers College, Kutztown.
State Teachers College, Lock Haven.
State Teachers College, Mansfield.
State Teachers College, Millersville.
State Teachers College, Shippenburg.
State Teachers College, West Chester.
Susquehanna University, Selinsgrove.
Swarthmore College, Swarthmore.
Temple University, Philadelphia.
University of Pennsylvania, Philadelphia.
University of Pittsburgh, Pittsburgh.
Ursinus College, Collegeville.
Villanova College, Villanova.
Washington and Jefferson College, Washington.
Waynesboro College, Waynesboro.
Westminster College, New Wilmington.
Westtown School, Westtown.

Rhode Island

Brown University, Providence.
Providence College, Providence.
Rhode Island State College, Kingston.

South Carolina

Clemson Agricultural College, Clemson.
College of Charleston, Charleston.
Erskine College, Due West.
Furman University, Greenville.
Medical College of the State of South Carolina, Charleston.
Newberry College, Newberry.
Presbyterian College, Clinton.
The Citadel, The Military College of South Carolina, Charleston.
University of South Carolina, Columbia.
Winthrop College, Rock Hill.
Wofford College, Spartanburg.

South Dakota

Black Hills Teachers College, Spearfish.
Huron College, Huron.
South Dakota State College of Agriculture and Mechanic Arts, Brookings.
South Dakota State School of Mines, Rapid City.
University of South Dakota, Vermillion.

Tennessee

Carson-Newman College, Jefferson City.
Cumberland University, Lebanon.
Fisk University, Nashville.
George Peabody College for Teachers, Nashville.
Lincoln Memorial University, Harrogate.
Maryville College, Maryville.
Meharry Medical College, Nashville.
Memphis State College, Memphis.
Milligan College, Milligan.
Southwestern, Memphis.
State Teachers College, Johnson City.
State Teachers College, Murfreesboro.
Tennessee College for Women, Murfreesboro.
Tennessee Polytechnic Institute, Cookeville.
Union University, Jackson.
University of Chattanooga, Chattanooga.
University of the South, Sewanee.
University of Tennessee, Knoxville.
Vanderbilt University, Nashville.

Distribution in the States of the several types of training

States	Army														Navy						
	Engineers	Aviation Cadets	WAAC's	Basic training	Personnel psychology	Area and language training	Premedical	Meteorology	Medical training	Basic medical sciences	Dental training	Veterinary training	Chemical warfare	Others	Engineers	Basic training	Premedical	Medical training	Basic medical sciences	Dental training	Others [1]
Alabama	2	3	---	3	---	---	1	---	---	1	---	1	---	---	---	1	1	---	1	---	---
Alaska	1	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Arizona	1	2	---	1	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---
Arkansas	1	4	2	3	---	---	1	---	1	---	---	---	---	---	---	1	1	1	---	---	---
California	3	3	2	9	2	3	4	2	4	---	3	---	1	---	3	6	3	4	---	3	---
Colorado	3	2	1	3	---	1	1	---	1	---	---	1	---	---	1	2	2	1	---	---	---
Connecticut	2	1	---	2	---	---	1	---	1	---	---	---	---	---	1	2	2	1	---	---	---
Delaware	1	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
District of Columbia	3	---	---	4	---	1	4	---	3	---	2	---	---	---	---	1	---	2	---	1	---
Florida	1	2	---	1	---	---	1	---	---	---	---	---	---	---	---	1	---	---	---	---	---
Georgia	1	1	---	2	---	---	1	---	2	---	1	---	---	---	1	2	1	1	---	1	---
Idaho	1	1	---	1	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Illinois	2	7	---	8	2	1	3	1	4	---	3	---	1	---	3	3	2	4	---	3	---
Indiana	2	3	---	6	1	1	1	---	1	---	1	---	---	---	1	6	2	1	---	1	---
Iowa	2	4	---	4	1	1	2	1	1	---	1	1	---	---	1	4	1	1	---	1	---
Kansas	2	5	---	2	---	---	2	---	1	---	---	1	---	---	1	4	1	1	---	---	---
Kentucky	1	1	1	2	---	---	---	---	1	---	1	---	---	---	1	2	1	1	---	1	---
Louisiana	1	2	---	2	---	---	1	---	2	---	1	---	---	---	1	2	2	2	---	1	---
Maine	1	1	---	3	---	---	2	---	---	---	---	---	---	---	---	2	1	---	---	---	---
Maryland	2	1	---	3	---	1	2	---	2	---	1	---	---	---	---	1	---	2	---	1	---
Massachusetts	3	2	---	6	1	1	3	---	3	---	1	---	1	2	3	3	4	3	---	2	1
Michigan	4	5	---	7	---	1	4	1	2	---	2	1	---	2	1	5	2	2	---	2	---
Minnesota	1	4	---	2	1	1	1	1	1	---	1	---	---	---	1	2	1	1	---	1	---
Mississippi	1	2	---	2	---	---	1	---	---	1	---	---	---	---	---	2	---	---	1	---	---
Missouri	3	7	---	5	---	---	3	1	2	1	3	---	---	1	1	3	1	2	1	3	---
Montana	1	4	---	2	---	---	---	---	---	---	---	---	---	---	1	2	---	---	---	---	---
Nebraska	1	4	---	2	---	---	2	---	2	---	2	---	---	---	---	2	---	2	---	2	---
Nevada	1	1	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
New Hampshire	1	1	---	1	---	---	1	---	---	1	---	---	---	---	1	1	1	---	1	---	---
New Jersey	3	---	---	3	---	1	2	---	---	---	---	---	---	---	1	1	---	---	---	---	---
New Mexico	2	---	8	3	---	---	---	---	---	---	---	---	---	---	1	1	1	---	---	---	---
New York	10	8	---	19	---	1	7	2	9	---	3	1	---	---	6	7	7	9	---	3	1
North Carolina	1	3	1	4	---	---	1	---	2	1	---	---	---	---	1	3	3	2	1	---	1
North Dakota	2	2	---	2	---	---	1	---	---	1	---	---	---	---	---	2	---	---	1	---	---
Ohio	3	12	---	11	1	1	5	---	3	---	2	1	---	1	1	8	3	3	---	2	2
Oklahoma	3	7	7	3	---	---	1	---	1	---	---	---	---	---	1	---	1	1	---	---	---
Oregon	1	---	1	2	---	---	1	1	1	---	1	---	---	---	---	1	1	1	---	1	---
Pennsylvania	8	13	11	13	2	2	9	---	5	---	3	1	---	1	5	11	5	5	---	3	---
Rhode Island	1	---	---	2	---	---	---	1	---	---	---	---	---	---	1	1	1	---	---	---	---
South Carolina	2	7	---	4	---	---	---	---	1	---	---	---	---	---	1	2	1	1	---	---	---
South Dakota	1	3	---	2	---	---	1	---	---	1	---	---	---	---	1	---	---	---	1	---	---
Tennessee	2	13	1	4	---	---	3	---	3	---	2	---	---	---	---	3	1	2	---	1	---
Texas	2	8	6	6	---	---	3	---	2	---	2	1	---	---	3	5	4	2	---	2	---
Utah	2	2	---	2	---	---	1	---	---	1	---	---	---	---	---	1	---	---	1	---	---
Vermont	2	2	---	2	---	---	1	---	1	---	---	---	---	---	---	1	1	1	---	---	---
Virginia	2	1	1	6	---	---	2	---	2	---	1	---	---	1	1	3	4	2	---	1	1
Washington	2	3	---	4	1	1	3	---	---	---	---	1	---	---	1	3	3	---	---	---	---
West Virginia	1	3	---	2	---	---	1	---	---	---	---	---	---	---	---	1	1	---	1	---	---
Wisconsin	1	8	---	3	---	1	1	1	2	1	1	---	---	---	2	1	1	2	---	1	---
Wyoming	1	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total	101	168	42	185	12	19	86	12	66	9	38	10	3	8	48	115	67	63	9	37	6

[1] Premeteorological training for Army Air Corps; Officers for the Quartermaster Corps; Navigation; Japanese language; advanced technical subjects; automechanics; postal service training; women aides to ordnance engineers; 1 each.
[2] WAVES, 2; Chaplains, School of Recognition, Diesel engineering, Specialized naval training, 1 each.

Texas

Agricultural and Mechanical College of Texas, College Station.
Austin College, Sherman.
Baylor University, Waco.
College of Marshall, Marshall.
College of Mines and Metallurgy, El Paso.
East Texas State Teachers College, Commerce.
John Tarleton Agricultural College, Tarleton Station.
Mary Hardin-Baylor College, Belton.
North Texas Agricultural College, Arlington.
North Texas State Teachers College, Denton.
Prairie View State College, Prairie View.
Rice Institute, Houston.
Southern Methodist University, Dallas.
Southwestern University, Georgetown.
Southwest Texas State Teachers College, San Marcos.
Stephen F. Austin State Teachers College, Nacogdoches.
Sul Ross State Teachers College, Alpine.
Texas Christian University, Fort Worth.
Texas Dental College, Houston.
Texas State College for Women, Denton.
Texas Technological College, Lubbock.
Texas Wesleyan College, Fort Worth.
University of Texas, Austin.
West Texas State Teachers College, Canyon.

Utah

Branch Agricultural College, Cedar City.
Brigham Young University, Provo.
University of Utah, Salt Lake City.
Utah State Agricultural College, Logan.

Vermont

Middlebury College, Middlebury.
Norwich University, Northfield.
University of Vermont and State Agricultural College, Burlington.

Virginia

College of William and Mary, Williamsburg.
Emory and Henry College, Emory.
Hampden-Sydney College, Hampden-Sydney.

Hampton Institute, Hampton.
Lynchburg College, Lynchburg.
Medical College of Virginia, Richmond.
Randolph-Macon College, Ashland.
University of Richmond, Richmond.
University of Virginia, Charlottesville.
Virginia Military Institute, Lexington.
Virginia Polytechnic Institute, Blacksburg.
Washington and Lee University, Lexington.

Washington

Central Washington College of Education, Ellensburg.
College of Puget Sound, Tacoma.
Gonzaga University, Spokane.
St. Martin's College, Lacey.
State College of Washington, Pullman.
University of Washington, Seattle.
Walla Walla College, College Place.
Whitman College, Walla Walla.

West Virginia

Bethany College, Bethany.
Concord State Teachers College, Athens.
Marshall College, Huntington.
West Virginia State College, Institute.
West Virginia University, Morgantown.
West Virginia Wesleyan College, Buckhannon.

Wisconsin

Beloit College, Beloit.
Carroll College, Waukesha.
Lawrence College, Appleton.
Marquette University, Milwaukee.
Ripon College, Ripon.
St. Norbert College, West De Pere.
State Teachers College, Eau Claire.
State Teachers College, Oshkosh.
State Teachers College, Stevens Point.
University of Wisconsin, Madison.
Branch at Milwaukee.
Branch at Racine.

Wyoming

University of Wyoming, Laramie.

War Department Sets Up Specialized Training System

The War Department has announced the setting up of a system to assure uniform standards and procedures throughout continental United States for the selection of enlisted men to participate in the Army Specialized Training Program.

Classification officers or unit personnel officers will designate the men in their units who have completed, or are about to complete, their basic training, and who have the prescribed qualifications. These men will be given a special standardized, objective test for college aptitude. A selection board will then give consideration to each man who has achieved the required minimum score of 110 or better in the test. Assignments will be made by the commanding officer, who will be authorized to make selections within prescribed quotas, on the basis of military needs.

Selection for the basic program is limited to enlisted men who have not passed their 22d birthday, who are high-school graduates or who have demonstrated by reason of aptitude, experience, and training that they have the equivalent of a high-school education, and who have made a score of 110 or better in the Army General Classification Test. The advanced program is open to men aged 18 or above who have completed the basic program, or who have had one or more years of approved college work, and whose aptitudes, as shown by test scores, and qualifications, as determined through interview by selection boards, are sufficiently high to warrant the advanced work.

Initially, emphasis will be on the selection of men who are qualified for the advanced courses in electrical, chemical, civil and mechanical engineering.

Enlisted men assigned to the Army Specialized Training Program are on active duty, and will receive quarters, mess, clothing, equipment, and instruction at Army expense. Each man will be trained in the grade of private. Initially, pay and authorized allotments will be in accordance with this grade. Noncommissioned officers, technicians, and privates, first class, will be reduced to the grade of private, without prejudice, upon the date of their departure from their unit for the school.

The basic program will train men in such subjects as college mathematics, physics, and chemistry, to prepare them for their tasks in the arms and services. On completion of this work, or as much of it as is deemed necessary and advisable, the men will be recommended, in accordance with their qualifications, for assignment to an Officer Candidate School, for immediate service with combat troops, or for participation in the advanced program.

Advanced programs will include work in such fields as the premedical and medical, predental and dental, preveterinary and veterinary; all branches of engineering; and special courses in mathematics, physics, chemistry, area studies, and personnel psychology. All such programs are designed to train men for specific military tasks. Each program is a series of 12-week terms, varying in number according to the requirements of the particular field.

If an enlisted man who is under consideration for the Army Specialized Training Program has expressed a preference for an Officer Candidate School, and if, in the opinion of the selection board, he is already qualified for such assignment, he will be referred to the Officer Candidate School board for its consideration.

Weekly schedules for men in the Army Specialized Training Program will include approximately 24 hours of class and laboratory work; 24 hours of preparation and study; 6 hours of physical conditioning; and 5 hours of military instruction. Men will be off duty from late Saturday afternoon until Sunday evening mess.

A typical daily program is: 6: 30 a. m. to 8 a. m., reveille, breakfast, policing; 8 a. m. to 12 noon, classes and study; 12 noon to 1: 30 p. m., mess; 1: 30 p. m. to 4: 30 p. m., classes and study; 4: 30 p. m. to 6: 30 p. m., off duty; 6: 30 p. m. to 7: 30 p. m., mess; 7: 30 p. m. to 9: 30 p. m., study; 10 p. m., taps. Variations will of necessity occur in order that maximum use may be made of instructional staffs and laboratories, and the typical program illustrates the amount of time devoted to work rather than the specific times at which such work will be done.

Enlisted men may obtain information on the program through their unit commanders, or by addressing inquiries through channels to the Commanding General of Service Commands.

Student Deferment

Occupational Bulletin No. 11, as amended March 1, 1943, and announced by the Selective Service System as effective immediately, reads as follows:

1. General Policy on Student Deferment

The War Manpower Commission has certified that there exists a serious need for additional persons in scientific and specialized fields and in certain of the professions. They are needed to perform vital services in activities essential to war production, to the support of the war effort, and in activities the maintenance of which is necessary to the health, safety, and welfare of the Nation.

The subject of this occupational bulletin covers the eligibility of certain students for deferment. Careful consideration for occupational deferment should be given students included herein.

2. Students, Regular Courses, Scientific and Specialized Fields

(*a*) *Undergradute students*—

A student in undergraduate work in any of the scientific and specialized fields listed in paragraph (*c*) below should be considered for occupational classification if he is a full-time student in good standing in a recognized college or university and if it is certified by the institution as follows: (1) That he is competent and gives promise of successful completion of such course of study, and (2) That if he continues his progress he will graduate from such course of study on or before July 1, 1945.

(b) *Graduate students*—

A graduate or postgraduate student undertaking further studies in the scientific and specialized fields, listed in paragraph (c) below, following completion of his normal undergraduate course of study should be considered for occupational classification if in addition to pursuing further studies, he is also acting as a graduate assistant in a recognized college or university. A graduate assistant should be a student who in addition to pursuing such further studies is engaged in one of the following: (1) Scientific research certified by a recognized Federal agency as related to the war effort; or (2) Classroom or laboratory instruction in one of these scientific or specialized fields for not less than 12 hours per week.

(c) *Scientific and Specialized fields*—

Aeronautical engineers.
Automotive engineers.
Bacteriologists.
Chemical engineers.
Chemists.
Civil engineers.
Electrical engineers.
Geophysicists.
Heating, ventilating, refrigerating, and air conditioning engineers.
Marine engineers.
Mathematicians.
Mechanical engineers.
Meteorologists.
Mining and metallurgical engineers, including mineral technologists.
Naval architects.
Petroleum engineers.
Physicists, including astronomers.
Radio engineers.
Safety engineers.
Sanitary engineers.
Transportation engineers—air, highway, railroad, water.

3. Students, Medical, Dental, Veterinary, Osteopathic, Theological

(a) *Undergraduate, preprofessional students*—

A student in premedical, predental, preveterinary, preosteopathic, and pretheological fields should be considered for occupational classification if he is a full-time student in good standing in a recognized college or university, and if: (1) It is certified by the institution in which he is pursuing the preprofessional course of study that if he continues his progress he will complete such preprofessional course of study on or before July 1, 1945, and (2) It is certified by a recognized medical, dental, veterinary, osteopathic, or theological college that he is unqualifiedly accepted for admission and will undertake professional studies upon completion of his preprofessional work.

(b) *Students in professional schools*—

A registrant who is in training and preparation as a medical, dental, veterinary, or osteopathic student in a recognized medical school, dental school, school of veterinary medicine, or school of osteopathy (a student preparing for the ministry in a theological or divinity school recognized as such a school prior to September 16, 1939, is exempt from training and service under the provisions of the Selective Training and Service Act of 1940), should be considered for occupational classification during the period of such professional course, provided he is a full-time student in good standing, and if: (1) He continues to maintain good standing in such course of study, and (2) It is certified by the institution that he is competent and gives promise of the successful completion of such course of study and acquiring the necessary degree of training, qualification, or skill to become a recognized medical doctor, dentist, doctor of veterinary medicine, or osteopath.

(c) *Internes*—

A registrant who has completed his professional training and preparation as a medical doctor, dentist, or osteopath, and who is undertaking further studies in a hospital or institution, giving a recognized interneship, should be considered for occupational classification so long as he continues such interneship, but for a period not to exceed one complete year.

4. Students of Agriculture, Forestry, Pharmacy, and Optometry

(a) *Undergraduate students*—

A student in undergraduate work in agriculture, forestry, pharmacy, or optometry should be considered for occupational classification if he is a full-time student in good standing in a recognized college or university and if it is certified by the institution as follows: (1) That he is competent and gives promise of the successful completion of such course of study, and (2) That if he has completed at least one-half of his undergraduate work and that if he continues his progress he will graduate in a number of months equal to the period of academic study which he has already completed.

Such deferment of students of agriculture, forestry, pharmacy, or optometry should not be for a period beyond July 1, 1943, pending further consideration of the status of such students.

5. Opportunity to Engage in Profession

When a registrant has completed his training and preparation in a recognized college or university, or his interneship, and has acquired a high degree of training, qualification, or skill, such registrant should then be given the opportunity to become engaged in the practice of his profession in the armed forces, or in an essential civilian activity. In many instances following graduation from a recognized college or university, or the completion of an interneship, a certain period of time will be required in the placing of such persons in an essential activity. When a registrant has been deferred as a necessary man in order to complete his training and preparation, it is only logical that his deferment should continue until he has had an opportunity to put his professional training and skill to use in the best interest of the Nation. Accordingly, following graduation in any of these professional fields or following an interneship, a registrant should be considered for further occupational classification for a period of not to exceed 60 days, in order that he may have an opportunity to engage in a critical occupation of his profession in the armed forces or in an essential civilian activity, provided that during such period the registrant is making an honest and diligent effort to become so engaged.

Wartime Placement of College Faculties

The Association of American Colleges, through its Commission on Wartime Placement of College Faculties, has established a national organization to find war-related work for faculty members whose services as teachers may not be needed during the emergency. John F. Sly of Princeton University is the director. Thirteen regional centers, each located at a college or university, have been set up. It will be the function of the organization to compile a register of positions suitable for faculty members and to act as a contact agency between the registrants and the potential employers. Any college or university in the country may use the facilities of the organization. All communications regarding its work should be addressed to Dr. Sly, Commission on Wartime Placement of College Faculties, 19 West 44th Street, New York, N. Y.

Terminal Vocational Training

A series of 2-year terminal vocational training courses to fit women for gainful employment in work directly related to the war effort is offered at Stephens College, Columbia, Mo. For the information of students who do not intend to continue their education after graduation from Stephens, the office of vocational guidance of the college has prepared a chart showing these courses. Prior to the beginning of the second semester the college made a survey of the plans of students with reference to the 32 fields listed on the chart.

The chart lists 32 vocational positions in which the services of women are in demand at the present time, with the duties and estimated earnings of each position, and recommendations of subjects in a 2-year course of study to prepare for each of these positions, together with the number of credit hours recommended for each subject.

According to the college, it is desirable that more than one-half of the work done should be in general education, so that every student training for a vocation can at the same time secure a broad general education.

Libraries and the War

Current Documents Display

Realizing the value of Government documents as a source of information, the Florida State College for Women Library has made special efforts to stimulate the use of this material by students and faculty. As the first step in this program, the reference librarian addressed the following letter to the instructors of classes in political science, economics, geography, social welfare, home economics, and the social studies.

"Our Library is now a depository for United States Government publications: Books, pamphlets, and periodicals. These days all of us want facts, not hearsay. Turn to the college library's document collection for authoritative information. Facts are on file here.

"You are invited to see a selection of current documents now on display in the reference room. Will you ask your students to visit this exhibit of invaluable reference materials? Questions about the use of documents, their indexes, etc., will be gladly answered.

"Would you be interested in an exhibit of documents in your particular field? Such displays can be arranged if you so desire. Let us help your students to use our growing collection of official United States Government publications."

As a follow-up to the letter, the reference librarians report that a large display of documents was arranged in the reference room. Agencies whose publications were displayed included the Children's Bureau, Women's Bureau, Office of Education, Bureau of the Census, Social Security Board, Labor Standards Division, Library of Congress, U. S. Congress, Public Health Service, Office of Defense, Health, and Welfare Services. These were arranged under captions such as *Government Periodicals; Indexes and Guides; Some Recent Government Publications Available in the Document Collection*, etc.

According to one reference librarian, the response to the letter was immediate and enthusiastic. Classes came to the library to have the documents explained to them, and faculty came not only to study the documents but also to request special exhibits as suggested in the letter. The first of the special exhibits was one on all phases of child welfare. Topics covered in this display were health, day care and training, delinquency, children of working mothers, charities and protection, children and the war, laws, handicapped and gifted children, child labor, and statistics. Another exhibit was devoted to law and the law-making process in the United States. This gave an opportunity for displaying and explaining the use of the *United States Code*, the *Statutes at Large*, the *Code of Federal Regulations*, the *Federal Register*, and other valuable reference tools in the field of political science. Other special displays are to follow.

Library and Community Institute

The Graduate Library School of the University of Chicago is arranging a special institute for the week of August 23-28 on the subject, "The Library and the Community." As now planned, the program will emphasize the sociological backgrounds and structure of cities, small towns, and rural regions, and the inter-relations with library activities; the nature of community services and obligations imposed by the war; the needs of special community agencies and population groups; and the responsibilities of the library in the community of the future. The major addresses will be delivered by prominent sociologists, political scientists, librarians, and civic leaders, and opportunity will be given for questions and general discussion.

Book List Available

The Indianola Junior High School Library, Columbus, Ohio, has a wealth of material about the war and about our allies. Concerning the use of the books we quote the librarian:

"Surely anyone will agree that one of the most potent means of building proper attitudes and keeping up morale in war days is through the use of books. We have recognized that fact in the library and have tried to put before the children those books which we feel will help to direct their thinking along the proper lines.

"Materials so used in our library might be classified in three groups:

1. "Books of information bearing directly on the war. Even children want to know facts. These books are read freely by all grades and by both girls and boys.

2. "Books about the other Americas and about the allied countries. We believe that we help to cultivate the feeling of friendliness and understanding by giving children books about these countries.

"These books have been in use constantly most of this semester by 9B English classes and by at least one 8B English class, as required work.

3. Equally important we think are the well-written books dealing with American history, both fiction and biography. We constantly promote the reading of such books not only to give the children the facts of their country's history but because we think it helps to give them a feeling of pride and of security to know that many times in our history we have had to fight for our lives and that their heritage includes many brave men."

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Tests Being Prepared

Tests are being prepared by the Examinations Staff of the Army Institute to assist in the evaluation of the educational growth of military and naval personnel during the period of service in the armed forces. Results from the tests will be certified upon request to schools and colleges for their evaluation of the educational achievement represented by the test scores. It is expected that the program will help the service men, upon their return to civil life, to obtain academic credit for educational growth in service.

The program applies to all armed forces, including the WAAC's, the WAVES, the U. S. Coast Guard Reserve, and the U. S. Marine Corps Reserve. The Institute is offering formal courses of instruction for use by service personnel during off-duty and spare time and the Navy Department is setting up educational service centers on major shore establishments all over the world where formal class instruction will be offered to officer and enlisted personnel on a volunteer basis. The examination program will furnish the basis for certified credit in this work.

The examinations staff is located at Chicago and is under the general direction of Ralph W. Tyler of the University of Chicago. E. F. Lindquist of Iowa State University is in charge of establishing the sample of schools to be used in producing the certificating standards for the tests. The Office of Education has been assisting in setting up the sample of schools.

WARTIME CONSUMER EMPHASES IN STATE AND CITY EDUCATIONAL PROGRAMS

Many new bulletins, course outlines, and other material having to do with consumer problems have reached the U. S. Office of Education recently and have been reviewed by members of the Working Staff on Consumer Education and Related Activities. They have been analyzed with a view to determining what types of consumer problems seem important in this field to State and city departments of education.

Many local groups are giving assistance to teachers with consumer problems not only through materials, but also through conferences and committee work. This work has also been summarized for use by others in the city or State. The courses of study, outlines, and conference reports examined are listed at the close of this article not for the purpose of suggesting that they are available for wider distribution, but rather to show how different groups are attempting to work on the problem in their own situations. The materials indicate that State and city departments are concerned about the consumer in the war program and believe consumer problems touch all ages of our population, and, therefore, must be a part of the learnings of all age levels.

The publications are varied in type. Some of them deal wholly with problems of consumers in wartime while others consider these along with other problems. The list of publications examined, while not long, is probably representative of materials that are being distributed to administrators and teachers. They seem to indicate that school people are convinced that schools must assume responsibility for including in their curriculum for all age levels a study of wartime consumer problems and that schools must adjust and expand their services to take care of these problems. Some of the questions which they have attempted to answer are: *first*, what are the wartime consumer problems which teachers should consider with their pupils; *second*, what are the arrangements through which schools can give help on these problems; *third*, how may school programs be organized to include emphasis on wartime consumer problems; and *fourth*, what kinds of help do teachers need to modify their programs.

Problems Teachers Need To Consider with Pupils

The publications in almost all cases include suggestions that problems of inflation, price control, rationing, and conservation be studied. Wise buying, taxation, savings, use of substitutes, wages and labor, housing, war costs and war production are also considered of timely importance.

There is great variation in the amount of emphasis given to topics and also in the scope of treatment. Problems of conservation are in some cases broadly treated to include problems of national scope as well as those of concern to families and individuals. In some outlines the first topics considered are the abundance of war materials needed by the Nation, the conversion of industries to making war equipment, and the material resources, manpower, and money needed to win the war. These considerations are followed by suggestions regarding ways the individual or family may reduce the use of scarce materials, take care of present civilian supplies, collect salvage, repair equipment, and save food. In other outlines the emphasis is primarily upon saving food, remodeling clothing, repairing equipment, conserving fuel, rubber, and other items, without reference to the over-all national problem of which these are a part.

More of the outlines include inflation, price control, and rationing than include stabilization of wages, prices, and profits. More emphasize buying war stamps and bonds than paying back debts, budgeting incomes, or wise buying. More emphasize conservation and salvage than emphasize war costs, war production, and housing shortages.

Arrangements Through Which Schools Can Give Help on These Problems

Publications examined indicate that while school officials recognize that there is already much consumer education being included in school programs, instruction is not being given to all pupils. It is pointed out that almost every school subject can make its special contribution to the wartime consumer education program. In general, three ways of securing the needed emphasis are suggested: *first*, enriching courses and units now being taught; *second*, adding to present courses new units emphasizing wartime consumer education problems; *third*, teaching courses in consumer education. There seems to be an almost unanimous opinion that the wartime consumer education program should be organized so as to fit into present or going school programs.

Organizing School Programs to Include Emphasis on Wartime Economic Problems

A review of materials which have been distributed by State and city departments of education reveals a variety of suggestions as to ways in which schools may include consumer education as a part of their curricula:

As a part of the broad program of schools and the war.—From Georgia, Chicago, Ill., and Los Angeles, Calif., there are publications dealing primarily with consideration of schools in wartime. In each of these the importance of and suggestions for a wartime program of consumer education is emphasized.

As a program of wartime economics.—Iowa, Connecticut, Rhode Island, Vermont, and Maine have distributed to teachers suggestions for teaching wartime economics. In several of these the material was prepared primarily for social-studies teachers, though in some cases suggestive activities for various subject-matter fields were given.

As units in consumer education.—An outline for a senior problems course from Los Angeles, Calif., states in the foreword that during the war emergency attention should be given to current economic problems. Suggestions are given for 10 weeks of study on such problems as rationing, inflation, price control, planned spending, and do's and don't's of borrowing money.

As changed emphasis in present courses.—Most of these suggestions were to home economics teachers for changed emphasis in their high-school and adult classes. Publications were reviewed from Arizona, Iowa, South Dakota, Texas, New Mexico, Montana, and New York. In four of these States the suggestions were prepared as summaries of or as a result of conferences of home economics teachers. Several gave particular attention to emphases desirable for adult classes and units for adult groups were outlined.

Kinds of Help Given Teachers

The materials issued by the States and cities gave teachers help with wartime consumer education in a variety of ways. In some, there were listed objectives of the whole program of consumer education. The following is illustrative: "To foster an understanding of the need for wartime economic regulations; to teach pupils how best to live in the present war economy; to foster voluntary cooperation and support of all phases of the war effort; to increase the efficiency of our war effort through this understanding and cooperation."

In some, objectives were suggested for specific units. One unit on Adjusting Family Living to Wartime Conditions had the following objectives: "To gain some ability in meeting the money management problems under normal and emergency conditions; to develop some appreciation of the effect of wise management upon the general satisfaction of the home; to learn to make changes in ways of living demanded by the all-out war and, at the same time, to keep a family healthy and happy; to discover and understand that the better the management practices of each individual family, the more it can contribute to defense without sacrifice of wholesome living."

Outcomes to be expected from the study were listed as understandings, attitudes, and skills for each of the units proposed by one State. The following are suggestive: "Knowledge that war production reduces available civilian goods; realization that for some time there will be no replacements for articles that we are accustomed to buying; understanding that each and every person must contribute to the war effort; interest and pride in America's war effort; willingness to make sacrifices; ability to discuss war production; ability to discriminate between false information and accurate facts."

In some of the bulletins pertinent facts about the national situation were summarized as background for teachers. These dealt with war production, food production needs, manpower, war costs, housing shortages, inflation, etc. In contrast, topics or questions to be considered were listed in other publications together with reference materials which could be drawn upon as sources of information.

The materials for teacher use included outlines of content for the units and suggested learning activities for pupils. In one, there were questions basic in evaluation of the outcomes. The particular emphasis which could be given through different subjects and activities appropriate for pupils studying these subjects was listed in some of the bulletins.

In the area of language arts, such activities as the following are suggested for elementary school pupils: "Discussing articles in periodicals which deal with rationing, shortages, conservation, salvage, etc.; bringing in pertinent cartoons, diagrams, pictures, and articles clipped from newspapers and magazines; discussing them, posting for all to see; exchanging experiences on using substitutes for high-priced or scarce articles."

In arithmetic, the following were suggested: "Dividing a sugar or gasoline ration to last for the full time of the allotment; determining cost per ounce of cereals and other foods in different sizes of packages; making simple bar graphs showing price rises per unit in 10 basic commodities." In art and music, the following were suggested: "Making cartoons and murals which deal with use of substitutes, conservation, sharing, rationing, price ceilings, conversion of factories from peacetime to wartime production; making posters showing why we need to save, buy war stamps, take care of our belongings; making of songs and rhythms on themes related to the war effort."

Suggested lessons appeared in two publications. In two, plans for administration of wartime education in the schools were outlined. Many included reference lists of books, bulletins, current magazines, films, and charts for use by teachers and pupils.

The teaching guides from Rhode Island were unique in outlining similar emphasis for the elementary schools, the junior high schools and the senior high schools. They were prepared by three cooperating State agencies. Part one of all three bulletins is the same. It includes three sections: (1) statements of the need for economic intelligence; (2) a summary of some facts regarding each of five major economic problems—war production, war costs, war price controls, war rationing, and war conservation; (3) ways to make these problems clear to young people and an explanation of the way the units that follow are organized. There is also a bibliography and a glossary of economic terms. Part two of each bulletin contains a series of teaching units for each of the five major economic problems. For each of these units there is included an introduction, a list of desired outcomes, content, suggested activities, and evaluations.

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Suggestions for a Correlated School and Community Program in Consumer Buying. Misc. 52. Albany, N. Y. The State Education Department, Bureau of Home Economics Education, 1942. 4 p. Mimeographed.

The Role of the Home Economics Teacher in the National Emergency. A summary of five district conference discussions. Vocational homemaking newsletter, Vol. XII, No. 8. Des Moines, Iowa, State Board for Vocational Education, 1942. 12 p. Mimeographed.

Ways to Victory. Teaching guides for use in elementary, junior high and senior high schools. Prepared under the auspices of the Rhode Island State Council of Defense, Rhode Island State Department of Education, Rhode Island Office of Price Administration, Providence, R. I., 1942.

What the Home Can Do for Defense. A guide for homemaking teachers and students. Los Angeles, Calif. Office of the County Superintendent of Schools, Division of Secondary Education, 1941. 31 p. Mimeographed.

What the Schools Can Do to Help Win the War. Report of the Wartime Education Commission for Georgia. Atlanta, Ga. State Department of Education, 1942. 62 p.

You Versus Inflation. A syllabus for teaching inflation, price control, rationing, and conservation in the public schools of Iowa. Developed in the Social Studies Curriculum Laboratory, State University of Iowa, Summer Session, 1942. Department of Public Instruction, Des Moines, Iowa, 1942. 16 p. Mimeographed.

Your Place in the War Program. Los Angeles City War Bulletin No. I. A suggested plan of organization and a war activities program for elementary schools, showing how principals, teachers, and pupils may effectively participate. Los Angeles, Calif. City School District, 1942. 58 p. Mimeographed.

Occupational Information and Guidance

Guidance Reports

New Edition

Counselors will welcome the new edition of *Guide to Guidance* published by the National Association of Deans of Women. This annotated bibliography of 1941 publications contains references to 151 books and 789 articles both professional and popular. These publications are grouped as follows: The current scene; the position of the dean of women, adviser to girls, and personnel worker; the philosophy of the dean or adviser; organization and administration of student personnel; areas of student counseling; miscellaneous; and bibliographies.

* * *

Adjusting to the War Effort

The need for occupational information and guidance in the Pennsylvania schools is expressed in the following outline from "Adjusting the Public Schools to the War Effort," by Leonard M. Miller, supervisor of occupational information and guidance:

Present Day Needs for Guidance

1. Occupational and educational information related to war and post-war needs must be presented to students in junior and senior high schools.

2. Records should reveal accurate facts about the student's interests, abilities, activities, personality, and potentialities.

3. Counseling services must be provided for all students to help them decide how they can serve to best advantage or plan their life work.

4. Curriculum changes should be made based on individual and wartime needs.

5. The schools must assist in placement in work on the home front and in military service.

Occupational Information

1. Every counselor and student should have access to adequate sources of information on military occupations and work on the home front.

2. Librarians and students can assist in assembling and disseminating this information.

3. Representatives from military fields and local fields of work should present the needs in their respective fields.

4. Monographs on latest information should be provided by State and Federal agencies.

Educational Guidance

1. Every counselor should know the locations and course offerings of trade schools and colleges. Correspondence courses might also be recommended at times.

2. How to finance one's education should be explained. Scholarships and loan aids and how to apply for them must be made known.

3. The problem on which most students and parents need help is whether the student should change major courses, whether he should plan to go to college, whether he should continue in school, or whether it is more patriotic to leave school and go to work.

* * *

Youth: The First Year Out of School is the title of a study released by the State Education Department, Albany, N. Y. Data were obtained from 7,233 youths. About 42 percent were in clerical and sales occupations. Half obtained help in getting their first job through their own individual efforts or that of friends. Half left their first job, either because it was a temporary job or they found a better one. Half found the chief value of their present job in the fact that it provides experience and training for promotion. More than a third reported that the chief help in vocational planning came from parents, relatives, and friends. The most helpful counseling services appeared to be "selecting proper courses while in school," "how to apply for a job," and "planning for further education" (43 percent).

Three-fourths reported that they would like to see additional school help: in the form of "more specific training for a job" (27 percent); "more specific advice in planning further education" (21 percent); "more instruction in how to get a job" (11 percent); "opportunity to return to a public school for special training" (10 percent); and "more specific advice on social living" (7 percent). The 10 subjects, in rank order, that they voted as most helpful were: English, mathematics, typewriting, history, stenography, chemistry, vocational subjects, science, bookkeeping, and mechanical drawing.

* * *

Toward Solving the Nursing Problem

Encouraging progress in the acceleration of nursing programs has been reported by Surg. Gen. Thomas Parran.

U. S. Public Health Service, following the first check-up of some 300 schools of nursing participating in the Training For Nurses (National Defense) Program. More than half of these schools of nursing are shortening their training periods, the extent varying from 32 to 24 months, according to the reports.

"Our country needs more nurses, not only for military duty but also for essential civilian positions," Dr. Parran declares. "One way of meeting this demand is through the acceleration of courses for student nurses. Schools of nursing have been urged to shorten their courses when practicable by adopting one of three plans suggested by the National League of Nursing Education.

"Increase in numbers of nurses will not be encouraged at the expense of standards, however," Surgeon General Parran emphasizes, "A number of competent nursing educators feel sure the necessary adjustments can be made without interfering with the quality of American nursing service of which we are so justly proud."

Student Nurse Corps Proposed

Dr. Parran says a Student War Nursing Reserve plan is under consideration, designed to help solve the critical nursing problem. The proposed plan includes suggestions for accelerated courses in schools of nursing, provision for stipends and maintenance, distinctive insignia or uniform, utilization of a portion of senior students in military and other governmental hospitals and in civilian hospitals and agencies. It would be administered by the U. S. Public Health Service as an extension of its present nursing education program.

The Student War Nursing Reserve proposal has the approval of the National Nursing Council for War Service, the Health and Medical Committee and its Subcommittees on Nursing and Hospitals, Office of Defense Health and Welfare Services, Federal Security Agency.

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LEGISLATION

Educational measures Before 78th Congress

Principal Provisions of S. 637, Federal Aid to Education

This bill would authorize $200,000,000 to be appropriated for the fiscal year 1944 and "for each fiscal year in which Congress shall find a need therefor" to enable States and their local public-school jurisdictions to meet *emergencies* in financing public elementary and secondary schools; such funds to be used:

1. To keep schools open and to pay the salaries of teachers;
2. To employ additional teachers to relieve overcrowded classes;
3. To raise substandard salaries of teachers; and
4. To adjust the salaries of teachers to meet the increased cost of living.

The U. S. Commissioner of Education is directed to apportion this fund to the States upon the basis of A. D. A., to wit: The amount to be apportioned to each State shall be an amount which bears the same ratio to the total amount made available as the A. D. A. of pupils attending all types of public elementary schools (including kindergartens and nursery schools) and public secondary schools (including through the 14th grade) in the State bears to the total of such A. D. A. for all the States.

Furthermore, this bill would authorize an additional appropriation of $100,000,000 for the fiscal year 1944 and each year thereafter "for the purpose of more nearly equalizing public elementary and public secondary school opportunities among and within the States" (including kindergartens and nursery schools and through the 14th grade). The amount apportioned to each State from the said $100,000,000 shall be an amount which bears the same ratio to the total amount made available as the index of financial need of such State bears to the sum of the index of the financial need of all the States. The index of financial need of a given State shall be computed by the Commissioner.

In order for a State to receive the benefits of the Federal funds under this bill a number of specific conditions must be met, including legislative acceptance.

The administration of the provisions of the bill is vested in the U. S. Commissioner of Education who is authorized:

1. To make such rules and regulations in conformity with its provisions as may be necessary to facilitate its administration.
2. He is authorized and directed to apportion to the States the funds under the terms of the Act.
3. He is authorized and directed to compute the *index of financial need* for each State.

For services and expenses necessary to the administration of this Act, and for the making of necessary surveys and other studies in connection with the best utilization of the grants to States, this Act authorizes to be appropriated for each fiscal year an amount not to exceed ½ of 1 per centum of the total amount authorized to be appropriated annually under the provisions of this Act ($300,000,000). The said ½ of 1 per centum ($1,500,000) may be allocated by the Commissioner to the State departments of education for surveys and other studies pertinent to the best use of the funds received; such allocations shall be made by joint agreement between the Commissioner and the Chief State educational authority. (Referred to Committee on Education and Labor.)

High-School Victory Corps

S. 875 (Mr. Hayden): To provide for the preparation of high-school students for wartime service. Would authorize Federal appropriations for payments to States through certification of the U. S. Commissioner of Education, in accordance with regulations promulgated by the Commissioner under the supervision and direction of the Federal Security Administrator with approval of the Chairman of the War Manpower Commission and the President. Appropriation for any complete fiscal year would not exceed $8,500,000 for assistance to States in adjusting the organization and curriculum of the high schools, $2,800,000 for assistance to State departments of education in providing State administration and instructional services in adjustments to a program for the preparation of youth for wartime service, and not to exceed $450,000 for all expenses necessary to enable the Office of Education to carry out the program. (Referred to Committee on Education and Labor.)

Care and Protection of Children

S. 876 (Mr. Hayden): To provide for the wartime care and protection of children of employed mothers. Would authorize Federal appropriations for payments to States for expenditure in accordance with State plans for the wartime care and protection of children of employed mothers, approved by the Office of Defense Health and Welfare Services, upon recommendation of the Children's Bureau, Department of Labor, or Office of Education, Federal Security Agency and for payments to subdivisions of States. Appropriation for any complete fiscal year, would not exceed $10,000,000 for payments to States and not to exceed $300,000 for all necessary expenses of the Office of Defense Health and Welfare Services, and other Federal agencies upon transfer thereto. (Referred to Committee on Education and Labor.)

Vocational Schools Help Recruit for War Production Training

Cooperative Recruitment Plan

The U. S. Office of Education recently has notified State directors of Vocational Training for War Production Workers that the vocational schools may assist the U. S. Employment Service in the recruitment of trainees for preemployment classes where the need for training is established, and the schools and the employment service have agreed on a cooperative plan.

The acute need for additional trained workers to man the production lines of war industries makes it imperative that the public employment service and the vocational schools work together closely in recruiting trainees for preemployment war production vocational training courses, said the announcement to the State directors.

During the first 2 years of the War Production Vocational Training Program, numbers of qualified referrals to preemployment training were available from the public employment office registers sufficient to more than fill the classes. Hence, it was not necessary for the school personnel to assist in the job of trainee-recruitment. Today the situation is completely reversed in most industrial communities because there are more war jobs than there are qualified persons to accept them. With the complete liquidation of WPA activities between February 1 and June 30, 1943, this source of referrals to war training classes also will be eliminated.

The U. S. Employment Service of the War Manpower Commission recognizes that the vocational school officials in many localities have contacts with persons who are not normally a part of the labor market and who should be in public vocational training courses to train for war production jobs.

It is possible that in some communities potential war workers, particularly housewives, have not registered for work at their public employment service because they are not aware of the serious need for their services. If such is the case, the vocational schools can be of service in relieving manpower problems by enrolling trainees direct at the school and then arranging with the employment service for their registration, preferably by having the employment service send a representative to the school for this purpose.

Procedure for the recruitment of preemployment trainees by vocational schools needs to be worked out cooperatively with the employment service to assure that the trainee registers with the U. S. Employment Service. Registration of preemployment trainees with the public employment service is a requirement under the law setting up vocational war production training.

Before vocational schools assist in recruiting preemployment trainees, the local director of vocational training for war production workers should: (1) Determine that there is a demand for workers in the pay-roll jobs for which the persons are to be trained, and (2) that the supply of qualified referrals from the employment service is exhausted or insufficient to fill the classes. Form requests for trainees should be sent to the employment service and information received from the employment service that it is unable to fill the request and therefore desires assistance in recruitment for referral to training.

How Schools Can Assist

Vocational schools also can assist in relieving the trainee recruitment problem by:

1. Shortening hours of preemployment training to less than 30 hours a week (the minimum is 15 hours a week without prior approval from the U. S. Office of Education).
2. Rearranging class schedules to suit the convenience of trainees.
3. Locating training centers near the source of trainee supply.
4. Encouraging training of minority groups.
5. Encouraging enrollment of women, particularly housewives.
6. Providing facilities to train high-school seniors.
7. Urging war contractors to utilize vocational school facilities by hiring inexperienced persons and sending them to preparatory supplementary courses.
8. Contacting employers and, with their cooperation, organizing more supplementary courses to upgrade persons already employed in plants for greater responsibility and as replacements for persons entering selective service.

The assistance in trainee recruitment the vocational schools can give the employment service will vary from community to community. For example, in some acute labor shortage areas, the vocational schools are assisting in door-to-door canvasses; in other areas, they are assisting the employment service by interviewing persons whose occupational questionnaires indicate that they have potential skills which need development through training. In still other instances, the vocational schools cooperate with the employment service and local draft boards to advise persons in nondeferrable occupations or activities of the opportunities for deferrable classification if they have dependents, take

Report on Enrollments

War Production Courses

Following a seasonal decline in December, new enrollments in vocational training for war-production courses in the public vocational schools increased during the month of January, according to latest reports available from the States to the U. S. Office of Education.

New enrollments in preemployment courses increased 24 percent and in supplementary courses 13 percent over new enrollments during December. There were 81,487 new enrollments in preemployment courses as compared with 65,714 in December; as of January 31 there was a total of 132,224 ending net enrollments in preemployment classes; a total of 77,256 persons concluded training; there was a total of 108,781 new enrollments in supplementary courses as compared with 96,240 during the previous month; there was an ending net total of 165,214 persons enrolled in supplementary courses as compared with 160,807 during the previous month; and 104,778 persons concluded training in supplementary courses.

Rural Production Courses

Enrollments in courses under rural war production training as reported by the States to the U. S. Office of Education during the month of January showed a total increase of 59 percent over the previous month.

Rural was production training courses are especially designed for training in the maintenance and repair of farm machinery and the growing of crops which are vital to the Nation's food program.

training, and obtain employment in an essential occupation in essential activity.

Need for Training Increases

War production manufacturers are finding it increasingly expedient to utilize the services of the public schools in developing the training program. The training services of the schools on the whole enable war industries to carry out efficient programs of training for which they themselves, in a large number of cases, do not have the facilities. The training within the schools tends to free production lines within the plant of the responsibility for training new and of upgrading old workers.

Numerous war industries are utilizing the services of the vocational schools for the training of workers to replace those who are lost to the plant through the draft.

Reports from numerous States indicate that war production manufacturers find they get better results by utilizing the services of the schools in training new workers who are employed and referred to the schools for training. In some States the payment of trainees in the schools by manufacturers has become an almost universal practice.

Programs in Action

Experience in cooperative preparatory supplementary training by the vocational schools for war production manufacturers varies from city to city in order to serve the specific needs of the manufacturers for whom trainees are being trained. Several types of cooperative training programs have been established for aircraft manufacturers. A program of preparatory supplementary training was recently begun in Chicago which takes into consideration the experience of the schools and war production manufacturers in numerous cities. The program is operated by the Chicago Board of Education in about 50,000 square feet of space in a rented garage building.

The school is conducted as a part of the program of Vocational Training for War Production Workers. Operating details were developed cooperatively by a large aircraft manufacturer, the Illinois State Board for Vocational Education, and the Chicago Board of Education. Rent, maintenance, cost of instruction, and cost of supervision of instruction are paid from Federal funds certified to the State of Illinois by the U. S. Office of Education from funds provided through Public Law 647. The director of the school is appointed by the Chicago Board of Education. Production material is furnished by the manufacturer. Supervision of methods of production and content of instruction is also furnished by the manufacturer through a full-time training officer who works with the director of the school. All forms, procedures, rules, regulations, and instructions to workers conform to the manufacturer's practices of the production plant.

Regulated by Hiring Schedule

Trainees are paid by the company at the regular beginning wage for 40 hours and time and a half for the additional 8 hours of the school work week. The school can accommodate about 900 trainees per shift, or a total of 2,700 at the peak on the three shifts. As of February 24, about 450 had been trained and sent to the factory with an additional 450 in training. The peak will be reached late in the spring or early summer.

All company "hires" are sent to the school for a training period of from 2 to 8 weeks, depending upon the occupation for which they are to be trained and the needs of the plant. The plant requisitions workers from the school as needed. The company training officer at the school requisitions "hires" (trainees) from the Company Employment Office at times and in numbers to meet the plant requirements, with due allowance for the training period.

Training is given for the following occupations: Drillers and riveters, sheet metal formers, major assembly workers, subassembly workers, machine tool operators, installation assembly mechanics, electrical bench assemblers, tool crib keepers, plastic pattern makers, template and layout workers, jig and fixture builders, aircraft metal fitters, and aircraft inspectors. The largest numbers are trained in the first four occupations listed.

In general the training is divided into three periods. During the first period, the trainees practice on operations, drilling and riveting, or forming. During the second period, the trainees work on subassembly. In the third period, the trainees work on the production of wing parts to be used in the company plant for assembly into finished planes.

The school is in much the same relation to the plant as is a subcontractor, since it furnishes training according to company specifications and up to company requirements and the labor needs schedule. The intake of the school is regulated by the companies' hiring schedule.

Training schools of similar nature are operating in Cleveland, Houston, Dallas, Los Angeles, Santa Monica, Long Beach, Oklahoma City, and Tulsa.

Improvement of Instruction

The States and the public vocational schools cooperating with the U. S. Office of Education are stressing quality of instruction in courses designed to train workers for war production industries. Regional conferences designed to improve the quality of instruction through supervision are being held this spring in the four administrative regions. One of these regional conferences was held at Richmond, Va. on March 1, 2, and 3 for Maryland, West Virginia, Virginia, North Carolina, and the District of Columbia. Materials developed at this conference that will be utilized at State and local conferences cover the following subjects:

Duties of State supervisors, duties of local supervisors, information on how to improve instruction, an instructor's check list, a supervisor's check list, an outline of steps in setting up a training program, an outline showing chief instructor's responsibilities and responsibilities of instructors, agenda for local and district supervisors, and methods of recruiting trainees in cooperation with the U. S. Employment Service in areas where such cooperation is necessary.

Visual Training Aids

A partial list of references concerning visual aids in relation to training of women and work in war production occupations, has been compiled by the Instructional Materials Service of the U. S. Office of Education, for use in connection with war production training courses in the public vocational schools. Purchase or rental of visual aids with war production training funds for use in training courses in the public vocational schools is permissible only when it can be shown that such materials are necessary as a part of the instruction for specific courses. The purchase of visual aids by a local war production training school must have prior approval of the State director of Vocational Training for War Production Workers and also of the Director of Vocational Training for War Production Workers, U. S. Office of Education.

The partial list is as follows:

America Learns to Fly

A motion-picture film, giving a review of America in the air covering Air Corps fledglings, commercial air-line pilots, the civilian pilot training program, and America's women with wings. The story emphasizes the part health plays in aviation. The picture was made with the cooperation and approval of the War Department.

Front Line Women

A motion-picture film, showing women in war, how British women work for the Army, Navy, and Air Force, their air raid work, nursing, and replacement of men enlisted for military duty; also how American women are following the footsteps of their sisters across the sea.

Her Father's Daughter

A motion-picture film, showing how completely the women of Britain are stepping into war factories in order to release manpower for the battle fronts.

Jane Brown Changes Her Job

A motion-picture film, which shows how a clerical worker goes in for special training and gets her job as an aircraft assembler.

Manpower

A motion-picture film, which suggests voluntary steps to be followed by employers and workers, cooperating with Government agencies.

Motion-Study Principles

A motion-picture film which shows better and easier ways to work, resulting in greater output and less fatigue.

Women and Machines

A slide film.

Women at War

A motion-picture film showing British women in the war.

Women in Defense

A film which gives a topical exposition of the various roles women are assuming in the war effort; principal sequences show women of science, women in industry, and women in voluntary services. The commentary was written by Mrs. Franklin D. Roosevelt and narrated by Katherine Hepburn.

Inclusion of a film in this list does not indicate preference or approval by the U. S. Office of Education. Many of the films listed are available on a loan basis from extension divisions of State colleges and universities, and from commercial, industrial, and governmental organizations.

Suggestions for Local Advisers of Victory Farm Volunteers

Success of a Victory Farm Volunteer unit in a high school depends largely on the adviser, according to a document, Misc. 3046, just issued by the U. S. Office of Education. (Copy available upon request.) It points out that three important functions come under the adviser's care: recruiting, selecting, and training.

Working Relationships

The adviser should become acquainted with the following persons and agencies and find out how they may be of service to the Victory Farm Volunteers: The State supervisor of the Victory Farm Volunteers, the director of the High-School Victory Corps in the local schools, the county agricultural extension service and the youth labor assistant, and the student counseling service in the local schools. (*Guidance Manual*, Pamphlet No. 4, *High-School Victory Corps Series*, U. S. Office of Education, is now available from the Superintendent of Documents, Washington, D. C. Price 20 cents.)

Familiarizing Interested Groups

To inform all interested groups the adviser should: Present the Victory Farm Volunteers to the student body, explain the organization to the teachers and to the parents, and arrange for general local publicity.

Training

In every community there are usually persons who are either engaged in farming or in occupations related to farming. These persons should be called in to aid in the Victory Farm Volunteer training program. The list of activities below should be utilized.

This summer many high-school and other teachers will serve as field supervisors for Victory Farm Volunteer groups. Some groups will have the same personnel throughout the summer. Advisers can render service by promoting and organizing volunteer groups. They should help to locate good supervisors, and encourage the best possible supervision.

Activity or topic	*Persons or agency to call upon*
Seeing movies of farm life	State supervisor Victory Farm Volunteers (Lists also available from U. S. Department of Agriculture, Washington, D. C.)
Studying a farming area	U. S. Bureau of the Census for detailed information. (Write to Census Bureau in Washington, D. C.)
Getting acquainted with farmers	Farmers or farm organizations.
Demonstrating farm safety	Teachers of agriculture, farmers.
Discussing farm problems	Farmers, representatives of farm organizations (Future Farmers of America, 4-H Clubs, Farmers' Union, Farm Bureau, Grange, and others).
Discussing wartime food production	Extension Service and farm organization officials.
Discussing health precautions on the farm	County health officials.
Learning experiences of city youth on farms	City youth who have worked on farms.
Meeting with parents to explain Victory Farm Volunteers.	Students, parents, principal, farmers.
Learning farm terms	Teacher of agriculture, county agent, farmer.
Discussing how to fit into a farm family	Farmers and farmers' wives.
Discussing how to live in a work camp	Camping experts.
Taking week-end trips to farms	Future Farmers of America chapter, farmers, 4-H Clubs.
Taking trips to agricultural experiment station or college of agriculture.	Staff members of station or college.
Taking trips to farm implement warehouse, dairy, packing house, etc.	Owners or operators.
Taking trips to obtain training in certain farm skills.	Teacher of agriculture, farmer, county agent.

Easter Seal Sale For Crippled Children

Every year the National Society for Crippled Children puts on its Nation-wide sale of Easter seals, proceeds of which are used in a continuous program to advance the welfare of crippled children and adults. This year the seal sale goes on from March 26 to April 25.

It takes numerous agencies, both public and private, to add up to a good program for crippled children, but the Easter seal has come to stand for certain basic things which look toward making useful citizens of our handicapped youth. These include education, medical care, hospitalization and corrective treatment, including early discovery and early diagnosis, so that our future citizens will have a better chance of having a body as nearly normal as possible.

U. S. GOVERNMENT ANNOUNCES

Orders for the publications listed on this page should be addressed as follows: Requests for *cost* publications should be sent to the *Superintendent of Documents, Washington, D. C.*, enclosing remittance (check or money order) at the time of ordering. *Free* publications should be ordered directly from the agency issuing them.

New U. S. Office of Education Publications

Handbook on Education and the War. Washington, U. S. Government Printing Office, 1943. 344 p. 55 cents.

Based on proceedings of the National Institute on Education and the War sponsored by the U. S. Office of Education Wartime Commission held at American University, Washington, D. C., August 28–31, 1942.

Guidance manual for the High-School Victory Corps. Washington, U. S. Government Printing Office, 1943. 37 p. (Victory Corps Series Pamphlet No. 4) 20 cents.

Material to assist school administrators, counselors, and teachers in carrying out the guidance functions essential to the organization of the High-School Victory Corps in all types of secondary schools is presented under the following topics: 1. The place of the guidance program in the High-School Victory Corps; 2. Making the pupil inventory; 3. Securing and using information about critical wartime services and occupations; 4. What the wartime counseling staff should do; and 5. Organization and administration of the Victory Corps guidance programs.

New Publications of Other Agencies

U. S. Army. Ordnance Department. *Battlenecks.* Washington, U. S. Army, Ordnance Department, January 1943. 28 p. Illustrated. ("Tremendous Trifles" series.) Free.

This third dispatch in the "Tremendous Trifles" series cites the accomplishments of additional production fronts, and shows how each has contributed to the elimination of a Battleneck.

U. S. Department of Agriculture. *Watch Your Step; Farm Safety for National Defense.* By Wellington Brink, in cooperation with the Committee on Agricultural Safety, Federal Interdepartmental Safety Council. Washington, U. S. Government Printing Office, 1942. 32 p. Illustrated. (Department of Agriculture Miscellaneous Publication No. 481.) 5 cents.

Tells how to eliminate accidents around the farm and in and about the home; and gives some pointers for electrical safety, fire prevention, and motor vehicle accidents.

———. Rural Electrification Administration. *A Home-Made Electric Brooder; Your Answer to the Meat Problem.* St. Louis, Mo., Department of Agriculture, Rural Electrification Administration [1943] 2-page folder. Illustrated. Free.

Gives directions for constructing a home-made electric brooder, thus insuring a steady supply of meat for wartime needs.

U. S. Department of the Interior. *The First Year in the War Program of the Department of the Interior and the Petroleum Administration for War.* By Harold L. Ickes, Secretary. Washington, Department of the Interior [1943]. 27 p. Single copies free.

Tells "How certain of resources were mobilized in the first year of war as resources became the limiting factor in war production for a nation that always believed its natural resources were almost endless."

U. S. Department of Labor. Children's Bureau. *Guides to Successful Employment of Non-Farm Youth in Wartime Agriculture.* Prepared by Children's Bureau in consultation with U. S. Department of Agriculture; U. S. Office of Civilian Defense; Office of Education, Federal Security Agency; and U. S. Manpower Commission; and approved by these agencies. Washington, Department of Labor, Children's Bureau, 1943. 14 p. Illustrated. (Children's Bureau Publication 290) Single copies free.

For use in victory farm volunteer programs.

———. Women's Bureau. *Wartime Reminders to Women Who Work.* Washington, U. S. Government Printing Office, January 1943. 8-page folder. 5 cents.

Contains suggestions for women who are paying guests and paid hostesses, which if followed should lessen the troubles that sometimes exist between these two groups, and thus contribute to the patriotic services of both.

U. S. Department of the Treasury. Bureau of Internal Revenue. *Collection of Tax at Source on Wages.* Washington, Department of the Treasury, Bureau of Internal Revenue, November 1942. 4 p. (Circular VT). Free. (From your nearest collector of Internal Revenue.)

Explains the duties of employers in withholding the remuneration of employees under the Victory Tax.

U. S. Federal Security Agency. Public Health Service. *Bill Gets the Works.* Washington, U. S. Government Printing Office, 1942. 10 p. Illustrated. (Public Health Service, Workers' Health Series No. 6). 5 cents.

Tells in popular style about the doctor's check-up, which the shop where Bill had applied for a job, requires of all of its employees.

U. S. Marine Corps. Women's Reserve. *Be a Marine . . . Free a Marine to Fight.* Washington, U. S. Marine Corps, Women's Reserve, 1943. 16 p. Illustrated. Free.

Reminds women desiring to be marines of the traditions of gallantry and honor of the service; and answers questions most often asked about the qualifications for enlistment, pay, training, and other requirements.

U. S. Office of Civilian Defense. *Victory Speaker; an Arsenal of Information for Speakers.* Prepared for them by the Office of War Information and the Office of Civilian Defense. Washington, Office of Civilian Defense, January 22, 1943. 12 p. Illustrated. (Victory Speaker No. 2). Single copies free from State and local defense councils.

Contains suggestions for victory speakers participating in the campaign to mobilize the Nation's manpower.

U. S. Office of War Information. *The Thousand Million.* Revised December 1942. Washington, Office of War Information, 1943. 49 p. (Illustrated. Free. (Supply limited).

Contains background material of the 28 United Nations who were at war with the United States of America against the Axis at the date of publication.

———. Division of Public Inquiries. *How Can We Make Rationing Work For Us?* Washington, Office of War Information, Bureau of Public Inquiries [1943]. 4 p. (Discussion Guide No. 1). Single copies free. (Supply limited).

Designed for teachers, discussion leaders, and speakers. Answers some questions about point rationing and suggests others upon which participants in forum groups might wish to exchange ideas.

———. ———. *Your War and Your Wages.* Washington, Office of War Information, Division of Public Inquiries, [1943]. 28 p. Free.

A vest-pocket-size publication (2 by 3 inches) describing democracy's techniques for meeting its war problems, as workers, farmers, industry and Government.

U. S. GOVERNMENT PRINTING OFFICE: 1943

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